

Healthy Maine 2020



Maine Center for Disease
Control and Prevention

An Office of the
Department of Health and Human Services

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Monitoring
the health of
Mainers
to help them
live healthier and
longer lives.

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Introduction

Welcome to the *Healthy Maine 2020*. This document provides a brief overview of the key public health indicators in Maine, briefly describes some of the State's current health issues, and establishes goals for improvement in the next decade. This is one of several current efforts to monitor the health of Mainers and help them live healthier and longer lives. While past Healthy Maine reports have been longer and more comprehensive, *Healthy Maine 2020* will focus on introducing the Healthy Maine 2020 objectives. As complementary resources, the 2012 State Health Assessment provides additional health status data and the 2013 State Health Improvement Plan will address in more detail strategies to meet shorter term goals.

Goals for Healthy Maine 2020

1. Attain high-quality, longer lives free of preventable disease, disability, injury, and premature death.
2. Achieve health equity, eliminate disparities, and improve the health of all groups.
3. Create social and physical environments that promote good health for all.
4. Promote quality of life, healthy development, and healthy behaviors across all life stages.

As a guide for this brief, Maine's public health leaders and community stakeholders used *Healthy Maine 2010* and the federal *Healthy People 2020* plan. While there is some alignment with *Healthy People 2020*, the work in the following *Healthy Maine 2020* chapters reflects the unique vision and challenge of addressing public health issues in Maine, and focuses on the data available specifically for Maine.

Healthy Maine 2020 presents thirteen key areas of public health, many of which were previously addressed in *Healthy Maine 2010*. Those interested in the progress made in the last ten years should consult the Healthy Maine website listed at the end of this introduction. Many of the objectives presented in *Healthy Maine 2010* will continue to be tracked, while also adding some new ones to reflect changes in both health status and public health systems and practice over the last ten years.

Document Outline

Healthy Maine 2020 consists of thirteen chapters. The first chapter, Health Equity, summarizes public health issues across all the topic areas as they are experienced by specific population groups in Maine. Some of these populations struggle with barriers to accessing medical services and implementing healthy behaviors that result from unique conditions. While the availability of reliable, quantifiable measures and data is inconsistent at best, this chapter serves to remind us of the areas where we can expand our current efforts in public health and continue to work to provide all Maine people an equal opportunity for healthy lives.

The remaining twelve chapters present an overview of specific public health topic areas for Maine and the selected ten-year objectives for those topics. While these topics are not all-inclusive, they attempt to broadly cover the major public health issues in Maine. In contrast, the national *Healthy People 2020* consists of 42 topic areas, some of which are combined in *Healthy Maine 2020*.

Healthy Maine 2020 is designed to facilitate easy access to information for reporting, planning, and responding to public health issues in the state of Maine. For each topic area chapter, the following information is provided:

- Why this topic area or public health issue is a concern for Maine;
- What the general public health response or strategies are to address the topic;
- Charts and graphs presenting data collected on the health objective measures for this topic area;
- Interpretation of the data defining progress made and needs in meeting health objectives in the topic area;
- The potential impact for selected vulnerable populations specific to the topic area.

Uses for this Document

- Use as a reference for planning public health programs and projects.
- Use as a source for data on public health efforts and outcomes in Maine.
- Use as a resource for report writing.

Further information:

Healthy People 2020:

healthypeople.gov/2020/default.aspx

Healthy Maine:

maine.gov/dhhs/mecdc/healthy-maine/index.shtml

Maine's 2012 State Health Assessment:

maine.gov/dhhs/mecdc/phdata/sha/index.shtml

Health Equity

Introduction:

Over the last century Maine has made progress in protecting and improving health and reducing the differences in health outcomes between groups defined by their social, demographic, environmental, and geographic characteristics. However, some health inequalities persist between the general public and certain groups or populations.

Maine Summary Health Measures

Different populations in Maine have specific health disparities, some of which are highlighted in the other chapters of Healthy Maine 2020. In addition, there are disparities in general health measures, including life expectancy, general health status, and years of potential life lost.

A core Maine value is *fairness*. Health equity in Maine means all people deserve a fair opportunity to make the choices that allow them to lead longer, healthier, and more productive lives. We have known that the risk for death, illness and injury, unhealthy behaviors, and reduced access to high quality care increases when income and education are lower. However, data now shows additional elements of social disadvantage (such as income inequality between groups) are also factors (determinants) which impact population health, and can have an additive impact over the lifespan. Intervention research shows many of these persistent health disparities are **not inevitable** – many can be changed or prevented.¹

Known health inequities are linked to factors such as race/ethnicity, income, lifetime education, gender, disability, sexual orientation, age, and geographic location. People at some stages of the lifespan have extra vulnerability due to dependence on others for one's welfare and health. We also recognize increased vulnerability in other specific

Maine populations as well, such as those with low proficiency in English, cultural challenges experienced by newly arrived refugees, or trauma experienced by our veterans. To protect and improve population health for all requires working towards health equity. Eliminating health disparities requires a multi-sector, multi-level approach that includes all segments of a community and taking specific action for certain groups on the determinants of health.

Life Expectancy

Maine's life expectancy rates are a stark illustration of health disparities. By this measure, Maine ranks as one of the healthier states in the nation.

Average life expectancy rates in Maine's 16 counties vary by as much as 3.2 years (78.8 yrs. -75.6 yrs. in 2009).²

Life expectancy rates are more than 20 years lower for members of the four Tribal nations in Maine compared to Maine residents.³

Over the last decade, the life expectancy for women in Washington County decreased. This is the only county in New England to see such a decrease.⁴

In other words, where any group of people lives in Maine is one factor linked to more vulnerability to their premature death.

Each of the chapters in Healthy Maine 2020 highlights a population for which evidence shows a higher rate of preventable disease, injury or other health-related condition related to the key area. The highlights do not include all populations disproportionately affected in that area, but serve to point out an example where targeted actions with a specific population are necessary to effectively address a health disparity. Systems and communities shape our health, as do our

own behaviors, so healthy lives are dependent on multiple factors at every level. This chapter serves as a primer for the issues related to health equity and health disparities.

Data Limitations related to Disparities Populations:

Maine, like many other states, does not collect sufficient data to consistently or systematically monitor and address health disparities in all populations. Survey samples and populations of some demographic subgroups can be too small to yield valid and reliable data. Lack of consistency across survey systems (i.e. using the same definitions and data collection methods) may prohibit combining datasets to achieve larger samples or track trends. In a rural state, small population numbers make it challenging to develop statistically reliable and anonymous data for some health problems. Where we have state or sub-state quality data to reference in this document, we do note disparities that are visible in the data. When data is lacking, Maine in practice relies on the national level evidence for data on specific populations to infer potential impacts on health for specific populations. While the data on health disparities is limited in this Healthy Maine 2020 Brief, more complete information is provided in the 2012 State Health Assessment.

Populations with Persistent Health Disparities

Maine has a total population of 1,328,361 people.⁵ This population includes subset groups who experience persistent health disparities. According to the 2012 National Plan of Action to End Health Disparities a health disparity is defined as “a particular type of health difference that is closely linked with social or economic disadvantage. Health disparities adversely affect groups of people who have systematically experienced greater social and/or economic obstacles to health and/or a clean environment based on their racial or ethnic group;

religion; socioeconomic status; gender; age; mental health; cognitive, sensory, or physical disability; sexual orientation; geographic location; or other characteristics historically linked to discrimination or exclusion.⁶

Health disparities are linked to the social determinants of health. This term includes the resources and social conditions in which people are born, live, learn, work, play, worship, and age which affect a wide range of health, functioning, and quality-of-life outcomes and risks. It is important to note that this section highlights many populations with persistent health disparities, but is not a comprehensive list.

Race and Ethnicity

Race and Ethnicity classifications were last defined by the Office of Management and Budget (OMB) in 1997, which includes five race categories (Black or African American, White, Asian, American Indian or Alaska Native, and Native Hawaiian or Other Pacific Islander) as well as one ethnic population (Hispanic/Latino or non-Hispanic/Latino).⁷ In addition, the Census and many health surveys allow for the self-designation of multiple races by an individual, which is often presented as a “two or more races” or “multiple races” category.

Change in Population, by Race/Ethnicity

	2000	2010	% Change
White	1,236,014	1,264,971	2.3%
Black/African American	6,760	15,707	57.0%
American Indian /Alaska Native	7,098	8,568	17.2%
Asian	9,111	13,571	32.9%
Native Hawaiian /Pacific Islander	382	342	-11.7%
Some other Race	2,911	4,261	31.7%
Two or More Races	12,647	20,941	39.6%
Hispanic	9,360	16,935	44.7%
Non-Hispanic	1,265,563	1,311,426	3.5%
Total Population	1,274,923	1,328,361	4.0%

factfinder2.census.gov US Census 2010

For several years, numerous research studies have demonstrated that members of a racial or ethnic minority group experience more health disparities and receive lower quality health care than majority groups. In general, white non-Hispanic people have better health outcomes as a racial/ethnic category.⁸

In Maine, the number of racial and ethnic minorities has increased since the 2000 Census. In a comparison from the 2000 to 2010 Census, Maine’s total population grew slowly at 4%, while the percentage of change for most race/ethnicity categories other than white or non-Hispanic has seen marked growth, ranging from 17.2% to 57.0%.⁹ Further, as the next section will detail, those who belong to a race or ethnic group other than white, non-Hispanic are much more likely to live in poverty. Nearly half of the Black/African Americans and over a third of all American Indian/Alaska Native in Maine are in poverty.¹⁰

Maine and US Population and Poverty by Race/Ethnicity

	Population		Poverty	
	US	Maine	US	Maine
White	72.4%	95.2%	13.0%	11.8%
Black/African American	12.6%	1.2%	28.1%	42.6%
American Indian /Alaska Native	0.9%	0.6%	29.5%	35.9%
Asian	4.8%	1.0%	12.8%	16.7%
Native Hawaiian /Pacific Islander	0.2%	--	21.5%	24.7%
Some other Race	6.2%	0.3%	28.5%	32.8%
Two or More Races	2.9%	1.6%	21.4%	24.3%
Hispanic	16.3%	1.3%	25.8%	11.8%
Non-Hispanic	83.7%	98.7%	11.0%	25.5%

2010.census.gov/2010census/data; factfinder2.census.gov

While small numbers have limited our knowledge of disparities for various racial and ethnic populations in Maine, we know that disparities exist at a national level and these are likely to be affecting Maine’s racial and ethnic minorities. Given cultural differences in many of these populations, whether

they are new residents or have lived in Maine for generations, culturally appropriate services need to be developed. This highlights the need for both general and focused education and interventions in our public health efforts.

Socioeconomic Status

The US Center for Disease Control and Prevention defines socioeconomic status as a composite measure that typically incorporates economic (income), social (education), and work status (employment). Each of these is considered an indicator, and they are related but not the same. Income, education, wealth and neighborhood income have significant effects on health, ability to choose healthy lifestyles and access to health services.

Socioeconomic Comparison (2008-2009)

	US	Maine
Income		
People in Poverty	15.9%	14.1%
Education Status of those in Poverty		
Less than High School	15.9%	25.1%
High School Graduate	27.9%	11.9%
Some College/Associate Degree	14.2%	8.4%
Bachelor’s Degree or Higher	10.5%	3.7%
Graduation Rate	75.5%	83.8%
Employment		
Unemployment Rate	10.3%	8.6%

factfinder2.census.gov 2008-2009;
nces.ed.gov/programs/coe/indicator_scr.asp#info

Poverty is one of the most significant factors in determining health outcome.¹¹ Poverty is associated with adverse social and physical development, particularly in early childhood. Those in poverty suffer higher rates of psychological disorders, poor academic and social functioning, and increased prevalence of chronic disease outcomes.

Education is one of the strongest predictors of health: the more schooling people have the better their health is likely to be. Research evidence

suggests that education exerts the strongest influence on health likely because of its strong relationship to both income and occupation. A higher proportion of those who do not complete high school live in poverty as compared to those in another educational group.¹² Those with more education have more opportunities for better paying jobs, housing in safer neighborhoods, access to nutritious foods and better medical care and health insurance. In 2012, Healthy People 2020 adopted a measurable objective to increase rates of high school graduation as an intervention to improve health status.

Lesbian Gay Bisexual Transgender (LGBT)

The acronym LGBT is often used as an umbrella term as if there was one single community. In fact it refers to several distinct groups, each with its own subgroups defined by their race and ethnicity, socioeconomic status, age, geographic location and/or other factors. The 2011 Institute of Medicine study of the health needs of lesbian, gay, bisexual and transgender people described this population as consisting of two overlapping categories: sexual orientation and gender identity. “Sexual orientation” refers to some combination of sexual attraction, behavior or identity, with the shared fact of not being exclusively heterosexual, and includes lesbians, gay men, bisexual men and women along with those people who do not use such a label but who nevertheless experience same-sex attraction or engage in same-sex sexual behavior. “Gender identity” refers to a person’s identification and presentation to a gender, which may be different than the sex assigned to them at birth. People with gender identities that are not the same as their biological sex at birth are often referred to as “transgendered” a term that includes those people who vary from or reject traditional cultural norms of gender.¹³

Sexual Orientation, by County

	Heterosexual	Homosexual	Bisexual	Other
Androscoggin	97.2%	1.5%	1.2%	0.2%
Aroostook	98.8%	0.4%	0.5%	0.4%
Cumberland	96.6%	1.9%	1.0%	0.4%
Franklin	96.8%	0.7%	1.2%	1.2%
Hancock	96.1%	1.5%	1.5%	0.9%
Kennebec	97.2%	1.7%	0.8%	0.3%
Knox	97.3%	1.0%	1.1%	--
Lincoln	97.3%	1.4%	1.1%	--
Oxford	97.0%	1.3%	1.5%	--
Penobscot	98.0%	1.0%	0.7%	0.2%
Piscataquis	97.9%	--	0.9%	--
Sagadahoc	97.5%	1.5%	0.8%	--
Somerset	97.4%	0.8%	1.4%	0.4%
Waldo	96.7%	2.4%	0.6%	--
Washington	97.7%	0.8%	0.6%	0.9%
York	96.6%	1.5%	1.5%	0.4%

Behavioral Risk Factor Surveillance System 2007-2009

In Maine, data on the lesbian, gay, bisexual and transgendered populations has been very limited. 2010 US Census data captured same sex couples living together, but not other lesbians, gays, or bisexuals. Since 2004, a question on sexual orientation has been asked on Maine’s Behavioral Risk Factor Surveillance System (BRFSS). The BRFSS data demonstrates that there are LGB populations throughout the state of Maine in every county. LGB data is also collected on the Maine Integrated Youth Health Survey for high school students, who more frequently report lesbian, gay or bisexual orientation. No on-going surveys or other health related data sources collect data on transgendered people in Maine.

Disability

The term “disabled” covers a continuum of conditions that may include physical, cognitive, developmental and/or mental impairment. In 2001 the World Health Organization simplified the definition of disability by framing the continuum into two linking concepts of limitations in personal functioning (basic activities such as mobility) and limitations in community life, (more complex

activities and interactions.)¹⁴ In 2012, the BRFSS survey used this frame and began asking two questions: (a) need for special equipment (cane, wheelchair, special bed, or special telephone) and (b) activity limitations as a result of physical, mental or emotional problems.¹⁵

Disability Status of Maine People

	With	Without
Total		
Population	15.5%	84.5%
Education		
Less than High School	20.8%	6.1%
High School Graduate	38.9%	31.9%
Some College/Associate Degree	26.2%	30.0%
Bachelor's Degree or Higher	14.1%	32.0%
Employment (Non-institutionalized population)		
Unemployment Rate	21.4%	26.4%
Not in Work Force	73.7%	67.9 %
Poverty		
Below 100% FPL	23.0%	10.9%

factfinder2.census.gov 2010

When the disability causes someone to be unable to take part in activities that contribute to one's personal growth, fulfillment and community inclusion, health outcomes are adversely affected. It has been shown that those with disabilities have experienced difficulty with attaining the health care they need, have less access or use less preventative services, receive less social and emotional support, and have a higher unemployment rate.¹⁶

In Maine, over 200,000 people have a disability and are not institutionalized.¹⁷ They are three times more likely to not finish high school than someone without a disability and twice as likely to be in poverty and have a notable higher unemployment rate. As discussed earlier, income and education are two key factors in determining health status.

Geography

Where you live can affect your health. Research studies have shown that:

- Rural Americans are more likely to have chronic illnesses, such as high blood pressure, heart disease, and diabetes.
- While gun fatalities from homicide are higher in urban areas, suicides caused by gun fatalities are disproportionately higher in rural areas.
- Many rural Americans lack access to treatment because appropriate transportation is either unavailable, too costly or healthcare facilities are too far from home.¹⁸

The Centers for Disease Control and Prevention, National Center for Health Statistics has developed an Urban-Rural Classification Scheme for counties. The scheme is built upon the Office of Management and Budget delineation of metropolitan and nonmetropolitan counties and uses the cut point of the US Department of Agriculture Rural-Urban continuum codes. The six developed categories are:

- Metropolitan Counties
 - *Large central metro*: Counties in Metropolitan Statistical Area (MSA) with 1,000,000 or more population that contain at least 250,000 in the principal city (none in Maine)
 - *Large fringe metro*: Counties in MSA over 1,000,000 that do not meet the large central classification (none in Maine)
 - *Medium metro*: Counties in MSA of 250,000-999,999 (Cumberland, Sagadahoc and York)
 - *Small metro*: Counties in MSA of 50,000-249,999 (Androscoggin and Penobscot)
- Nonmetropolitan Counties
 - *Micropolitan*: Counties in micropolitan statistical area (Kennebec and Knox)
 - *Noncore*: Counties not in a micropolitan statistical area (all other Maine counties)

Urban-Rural Classification

	Urban-Rural Classification	Population	Poverty
Androscoggin	Small Metro	107,702	14.2%
Aroostook	Noncore	71,870	15.7%
Cumberland	Medium Metro	281,674	10.7%
Franklin	Noncore	30,768	16.8%
Hancock	Noncore	54,418	12.4%
Kennebec	Micropolitan	122,151	12.2%
Knox	Micropolitan	39,736	11.4%
Lincoln	Noncore	34,457	9.8%
Oxford	Noncore	57,833	13.4%
Penobscot	Small Metro	153,923	16.3%
Piscataquis	Noncore	17,535	16.9%
Sagadahoc	Medium Metro	35,293	9.4%
Somerset	Noncore	52,228	18.5%
Waldo	Noncore	38,786	14.5%
Washington	Noncore	32,856	20.4%
York	Medium Metro	197,131	8.7%

Behavioral Risk Factor Surveillance System 2007-2009

In the United States, 65.3% of all counties are in Nonmetropolitan or Rural counties, yet only 16.7% of the nation's residents reside in them. In Maine, 11 of the 16 counties (or 68.8%) are in nonmetropolitan counties with 41.6% of residents living in these areas. For Metropolitan counties in Maine, the average poverty rate is 11.7% versus 14.2% for Nonmetropolitan areas. Further, for Noncore counties in Maine, the poverty rate is 15.2%.¹⁹ This demonstrates that, in Maine, the more rural the area, the higher the rate of poverty. Living in a rural area means negotiating challenges to access to personal health and social services, and prevention services for the whole community. While rural communities are rich in assets of people and local community, living in more-rural to most-rural areas is a determinant of health by itself.

Gender

Merriam-Webster dictionary defines gender as the behavioral, cultural, or physiology traits associated with one sex (male or female). While the term sex is a biological distinction, gender refers to socially constructed roles. Health disparities between men

and women occur when differences between men and women systematically favor one group over the other. For example, research has shown that:

- Women may live longer than men, but they also tend to suffer more disease and disability during their lifetime.
- Depression is twice as common among women compared to men, and is predicted to be a leading cause of disability by 2020.
- Victims of intimate partner violence are five times more likely to be women than men.
- Men of all race/ethnicities are two to three times more likely to die in motor vehicle crashes than are women, and death rates are twice as high among American Indians/Alaska Natives.
- Men of all ages and race/ethnicities are approximately four times more likely to die by suicide than females.²⁰

Gender Comparison

	Male	Female
Poverty		
Below 100% FPL	6.3%	7.9%
Education		
Less than High School	12.5%	10.5%
High School Graduate	34.0%	28.1%
Some College/Associate Degree	43.5%	49.5%
Bachelor's Degree or Higher	10.1%	11.8%
Poverty, by education		
Less than High School	25.5%	26.4%
High School Graduate	12.1%	16.3%
Some College/Associate Degree	8.3%	11.3%
Bachelor's Degree or Higher	5.0%	5.0%

factfinder2.census.gov 2010

In Maine, the female population is older than most other states with a median age of 43.4 years. Maine women are more likely to be poor, in poverty despite educational status, and over the past 10 years, more racially diverse. In the Maine Women's Health Report 2011, findings demonstrated that:

- Maine women's earnings lag behind those of men, this trend becomes more pronounced as women age. In 2009, the median income for Maine males of all ages and occupations was \$42,156 and for Maine females it was \$32,314.
- Poverty is a challenge facing many Maine women, especially older women and women with children. Between 2005-2009, 12.2% of Maine women 65 years or older lived below the federal poverty level, compared to only 6.7% of men 65 years or older. In Maine, between 2005 and 2009, an estimated 8.6% of families lived in poverty. Among female-headed single parent families with children, 39.3% were living in poverty compared to 5.5% of married couples with children and 20.6% of families with male head of household with children.
- Education and income were inversely related to unhealthy physical and mental health days per month. Women who had not graduated from high school reported more than two times the number of mentally unhealthy days and three times the number of physically unhealthy days per month compared to women with a college degree.²¹

Age

The leading causes of death differ at each phase of life, based on biologic as well as social needs and the environment in which people live. Some differences in health status and risks are developmental in nature, while others related to increased vulnerabilities such as being very young, or very old, when there is basic dependency on others for aspects of daily living (shelter, food, mobility, etc.). Social determinants of differing cultural and social

norms influence access to services and supports for functioning and health status for people in different age groups.

The 2010 US Census estimates Maine has a median age of 42.7 years, which is the highest in the United States. An aging population, a low birthrate, and a small minority population are all listed as contributing factors. Maine has a lower percentage of 0-18 year-olds and a high percentage of people 65 years and older. Both elders and parents of young children face barriers, such as lack of access to transportation, which make accessing health care services challenging for them.²²

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Access

Background

Access to timely, appropriate, high quality and regular health care and preventive health services is a key component of maintaining one's health. Good access to health care can be limited by financial, structural and personal barriers. Access to health care is impacted by location of and distance to health services, availability of transportation, the cost of obtaining the services, including the availability of insurance, the ability to understand and act upon information regarding services, the cultural competency of health care providers and a host of other characteristics of the system and its clients.

Health Equity Highlight: Rural Populations

In the 2008 *Plan for Improving Rural Health in Maine*, "every rural hospital, every rural provider and every rural community" was found to be at risk, and the current system was found to be unsustainable.¹

The report also found that "Maine's rural residents are generally poorer, older, sicker and have more chronic illnesses, higher rates of substance abuse and mental illness, and greater access barriers than non-rural residents."¹

- 61% of Maine residents live in rural areas.³
- As of 2011, 6% of all Maine residents live in a primary care health professional shortage area.⁴
- As of 2011, 15% of all Maine Residents live in a mental health professional shortage area.⁴
- As of 2011, 21% of all Maine residents live in a dental health professional shortage area.⁴

Maine's Health Professional Shortage Areas are primarily found in rural areas of the state.

Timely access is a key to managing illness, disease, and injury at stages when they are easier and less costly to treat.² A medical provider who establishes a regular and consistent relationship with a patient (often called a "medical home") can serve as a monitor and system guide, advising and referring patients so that their health issues can be treated promptly. A condition that is not treated or prevented can lead to expensive inpatient or emergency room admissions. Lack of insurance and the unavailability of providers who can serve the client are major barriers to timely treatment.²

The U.S. Department of Health and Human Services Health Resources and Services Administration (HRSA) has designated some parts of the U.S. as Health Professional Shortage Areas (HPSAs) and Medically Underserved Areas or Medically Underserved Populations (MUAs/MUPs).⁵

An HPSA is characterized by having shortages of primary medical care, dental or mental health providers and may be based on geography (e.g. a county or service area), demography (e.g. low income population) or institutional capacity (e.g. presence of a comprehensive health center, federally qualified health center or other public facility). MUAs/MUPs are areas or populations designated by HRSA as having too few primary care providers, high infant mortality, high poverty and/or high elderly population. Access in these areas is especially limited.⁵

Maine has a shortage of both primary care providers and dentists. There is an even greater shortage of health care specialists in rural areas throughout the state. For example, it is not atypical for a resident to have to drive 75 minutes one way for dental services or three hours one way for dialysis. Every county in Maine has some areas designated as "medically underserved" and the list of HPSAs for dentistry is much longer than the list for primary care providers.⁵

The Public Health Response

Public health efforts to extend and protect access to usual primary care providers (medical homes) support healthy lives.² Investment in electronic medical records (EMR), as suggested by the Centers for Disease Control and HRSA,^{6,7} leads to better coordination of care and timely treatment.⁸ Extending the reach of the healthcare system with the use of telehealth services⁹ and allied health professionals (such as nurse practitioners and physician assistants) can also reduce barriers to access.

Maine is improving public access to health care providers through several programs:

- Office of Rural Health and Primary Care recruitment and retention
- Office of MaineCare CHIP (Child Health Insurance Program) Medicaid expansion
- Maine Health Access Foundation grant programs to improve access
- Eastern Maine Medical Center's telehealth program
- Maine Medical Center's patient navigator program

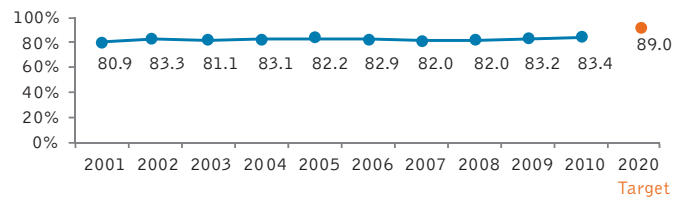
HM2020 Objectives

1. Increase the proportion of persons with a usual primary care provider

Primary care providers can help provide continuity of care, assurance of preventive care, better screening rates, guidance on healthy behaviors, and better care management for those with chronic conditions. Health care reform may offer an opportunity to increase the percentage of adults with a primary care provider.

The proportion of Mainers with a usual primary care provider has remained stable at about 82% over the last ten years. The *Healthy Maine 2020* target is 89%.

Proportion of 18+ Year-old Who Have One Person They Think of as Their Personal Doctor or Healthcare Provider, Maine, 2001-2010



Source: Behavioral Risk Factor Surveillance System

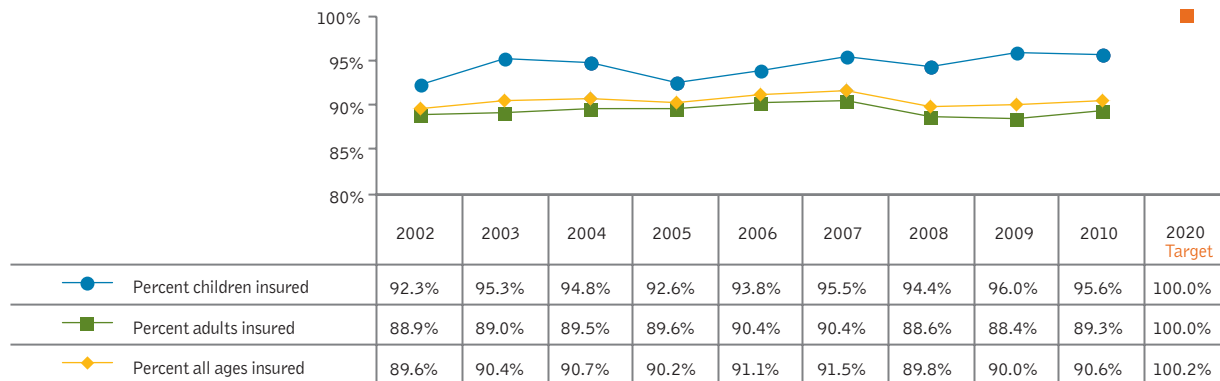
2. Increase the proportion of people of all ages with health insurance.

Those without medical and dental insurance are more likely to forego preventive and acute care and are less likely to adequately manage their chronic diseases. They are more likely to use emergency rooms for health care needs and to delay care. The lack of care or delays in care can result in more extensive and expensive treatment for conditions that would have been easier and less costly to treat earlier. People with any insurance are more likely to seek needed health care, including dental services. Many health insurance policies are employment-based, so self-employed and non-working adults are more likely to lack insurance. Health care reform may offer an opportunity to increase the percentage of people with medical insurance, but does not include dental insurance. State and federal budget restraints as well as a poor economic outlook could threaten the availability of both public and private insurance.

The proportion of Mainers with insurance has remained stable at around 90% over the last ten years. The Healthy Maine (and the Healthy People 2020) goal is to achieve complete coverage by 2020, at which time the nationwide health insurance mandate will have been in place for six years.

The proportion of people with dental insurance is significantly lower than the proportion with medical insurance. Most dental policies are limited by caps in the total amounts of expenses that they cover, so although people may have coverage for preventive and some restorative care, that coverage may not be sufficient for more extensive

Proportion of Adults 18+ and Children 17 or Younger with Health Insurance, Maine, 2002-2010



Source: US Census-Current Population Survey

procedures. In addition, Medicare does not include a dental benefit, so retired adults are more likely to lack coverage for oral health care. Data for dental insurance rates are less available than for medical insurance. Currently only data for adults is available.

2a. Increase proportion of children 17 years or less with health insurance.

The proportion of Maine children (aged 17 years or less) with insurance has remained stable at around 94% over the last ten years; the Healthy Maine 2020 goal is 100%.

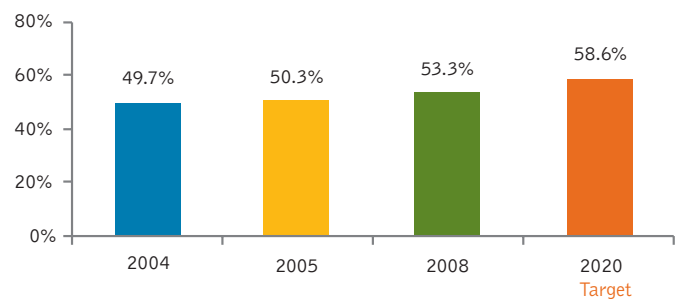
2b. Increase proportion of adults 18+ with health insurance.

The proportion of Maine adults (over 18) with insurance has remained stable at around 89% over the last ten years; the Healthy Maine 2020 goal is 100%.

2c. Increase proportion of adults 18+ with dental insurance.

The proportion of Maine adults (over 18) with dental insurance has shown some improvement over the last ten years. Since Health Care Reform does not include dental insurance, full coverage is not expected in the next decade. The Healthy Maine 2020 goal is 58.6%.

Proportion of Adults 18+ Years Old That Have Dental Insurance Maine, 2004, 2005, 2008



Source: Behavioral Risk Factor Surveillance System

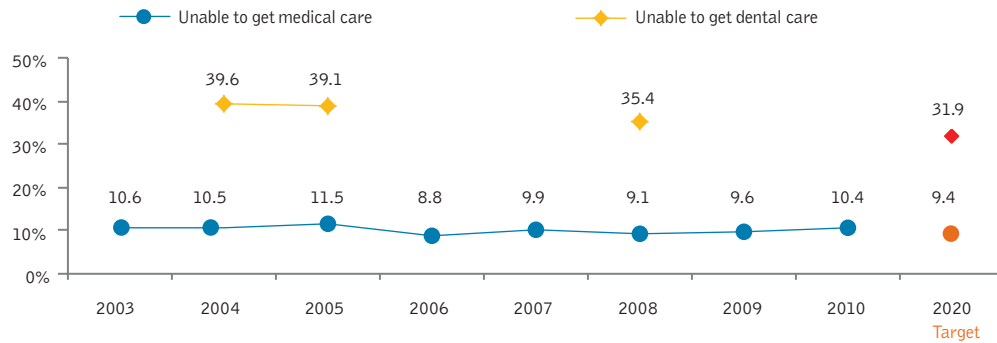
3. Reduce the proportion of individuals who are unable to obtain or delay obtaining necessary medical care or dental care.

People who forego medical care, dental care and prescriptions are less likely to get early (and less costly) treatment, and to adequately manage their chronic diseases. They are more likely to have poor health outcomes.

The proportion of Mainers unable to get the medical care they needed has remained stable at around 10% over the last ten years; the Healthy Maine 2020 goal is to reduce that to 9.4%.

The data for dental care has only been available sporadically, but still consistently shows that the proportion of Maine people unable to get needed dental care is much higher than that for other

Proportion of Adults 18+ Years-Olds Who Needed to See a Dentist or Physician in the Past 12 Months, but Could Not Because of Cost, Maine, 2003-2010



Source: Behavioral Risk Factor Surveillance System

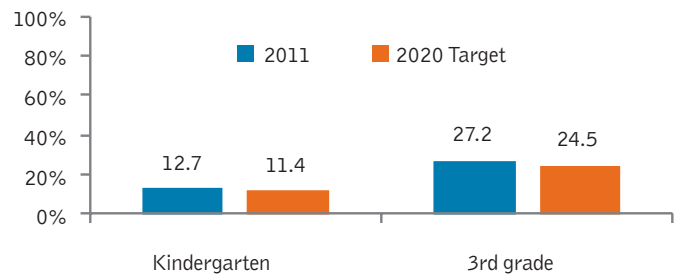
health care. Over one third of the population reported having been unable to get needed dental care due to the cost in 2008, the last year this data was collected. This data will be collected again in 2012. The Healthy Maine 2020 goal is to reduce that to 31.9%.

4. Reduce the proportion of children who have dental caries experience in their primary or permanent teeth.

Dental caries is the disease process that causes tooth decay (cavities). Lack of or late treatment of dental caries in children's primary and permanent teeth indicates a risk for poor oral health that may continue throughout their lifetimes. Poor oral health can have other health effects and an impact on economic status and quality of life.

In 2011, 12.7% of Maine kindergarteners and 27.2% of 3rd graders had dental caries in their primary or permanent teeth. The Healthy Maine 2020 goal is to reduce those numbers to 11.4% and 24.5%, respectively.

Proportion of Children Who Have Dental Caries Experience in Their Primary or Permanent Teeth, Maine, 2011



Source: Maine Integrated Health Youth Survey

5. Increase the number of community-based organizations providing population-based primary prevention services.

Access to population-based primary prevention in key health areas can reduce injury and disease, save health care costs, and reach those without access to health care. A community-based approach to health promotion and prevention complements efforts to increase health care access.

Current reports show that prevention activities are happening across Maine, in all areas of concern. Until additional data sources are developed to allow for more detailed information on the access to primary prevention resources, it is important to ensure that the current level of coverage is maintained through 2020.

Methodology notes

1. Increase the proportion of persons with a usual primary care provider

Measure: The percentage of those 18 years and older who have one person they think of as their personal doctor or healthcare provider.

Numerator: The number of respondents who answer yes to “Do you have one person you think of as your personal doctor or health care provider?”

Denominator: The number of respondents who answer yes, no, or have more than one response to the question.

Data source: Behavioral Risk Factor Surveillance System (BRFSS).

Target-setting method: 10% improvement.

Other notes: Data are weighted and therefore the numerator and denominator not shown in the charts. Respondents who gave more than one response to the question were counted as a “no.”

2. Increase the proportion of people of all ages with health insurance

SUB-OBJECTIVES:

2a. Increase proportion of children aged 17 years or less with health insurance.

Measure: Percent of children aged 17 years or less with health insurance.

Numerator: Number of children aged 17 or less with health insurance.

Denominator: The population of all children aged 17 or less.

Data source: Current Population Survey from the US Census.

2b. Increase proportion of adults aged 18+ with health insurance.

Measure: Percent of people aged 18 years and older with health insurance.

Numerator: Number of people aged 18 and older with health insurance.

Denominator: The population of all people aged 18 and older.

Data source: Current Population Survey from the US Census.

2c. Increase proportion of adults aged 18+ with dental insurance.

Measure: Percent of people aged 18 years and older with dental insurance.

Numerator: Number of people aged 18 and older with dental insurance.

Denominator: The population of all people aged 18 and older.

Data Source: BRFSS

Target-setting method: Selected based on the Healthy People 2020 target (total coverage).

Other notes: This is the same measure and data source as Healthy People 2020.

3. Reduce the proportion of individuals who are unable to obtain or delay obtaining necessary medical care, dental care or prescription medicines

SUB-OBJECTIVES:

3a. Reduce the proportion of individuals who are unable to obtain or delay obtaining necessary medical care.

Measure: The percentage of 18+ year olds who needed to see a doctor in the past 12 months, but could not because of cost.

Numerator: The number of respondents who answered yes to “Was there a time in the past 12 months when you needed to see a doctor but could not because of cost?”

Denominator: The number of respondents who answered yes or no to the question. If a respondent gave more than one response to the question, the response was classified as “no.”

- 3b. Reduce the proportion of individuals who are unable to obtain or delay obtaining necessary dental care.

Measure: The percentage of those 18 years or older who did not visit a dentist or dental clinic in the past year and cite cost as the reason.

Numerator: Number of respondents who answer “yes” to “Do you have any kind of insurance coverage that pays for routine dental care.”

Denominator: Number of respondents who answer yes or no to the question.

Target-setting method: 10% improvement.

Other notes: Data are weighted, and therefore the numerator and denominator not shown in the charts. The Dental care sub-objective is developmental since it has not been consistently asked in the BRFSS survey.

4. Reduce the proportion of children and adolescents who have dental caries experience in their primary or permanent teeth.

SUB-OBJECTIVES:

- 4a. Reduce the proportion of children aged 5 to 7 years with dental caries experience in their primary teeth.

Measure: Percentage of kindergarteners with dental caries experience in their primary teeth.

Numerator: The number of kindergarteners screened who had dental caries experience.

Denominator: The total number of kindergarteners screened.

- 4b. Reduce the proportion of children aged 7 to 9 years with dental caries experience in their primary and permanent teeth.

Measure: Percentage of 3rd graders with dental caries experience in their primary or permanent teeth.

Numerator: the number of third graders screened who had dental caries experience.

Denominator: the total number of third graders screened.

Data source: The data is from the Maine Integrated Youth Health Survey (MIYHS). Although the survey was completed in 2011, the most recent data available is currently 2009. Healthy People 2020 has a similar measure from the National Survey of Children Health, but the age ranges are slightly different: children ages 3-5 and children 6-9. This survey is done via home visits, as opposed to the school-based screening of the MIYHS.

Target-setting method: 10% improvement.

5. Increase the number of community-based organizations providing population-based primary prevention services.

Measure: The percentage % of DCCs reporting activity in each of 9 areas.

Numerator: The number of topic areas in which DCC's report primary prevention activity, by DCC.

Denominator: 9 topics areas multiplied by (8 DCCs + 1 tribal district) = 81.

Data Source: The data is from an annual survey of DLs, DCCs and Tribal Liaisons. NACCHO has identified 9 primary prevention topic areas: Injury, unintended pregnancy, chronic disease programs, nutrition, physical activity, violence, tobacco, substance abuse, and mental illness. DCCs were asked to report any activity that they were aware of (regardless of funding source in each of these areas). Activity reported by any one DCC member counted as activity in that District. The data did not indicate whether the activity was occurring district-wide, or for all populations. It also does not measure the effectiveness of those activities.

Target-setting method: The target was set as total coverage, all topics areas in all districts.

Other notes: This is the same objective as a Healthy People objective, but uses a different data source, since the HP 2020 objective uses a NACCHO survey that also includes the Local Public Health Departments, but does not collect from the variety of stakeholders (DCC members) included in the Maine survey.

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Chronic Disease

Background:

Chronic diseases, including cancer, diabetes, heart disease and stroke are those that develop within the body slowly, sometimes taking years for symptoms to emerge. In 2004, nearly half of all Americans were living with a chronic disease,¹ making it the most common and costly of all health problems, accounting for 83% of all health care spending.¹ A patient is rarely cured of their chronic disease,² yet the majority of all chronic diseases are preventable and controllable, making prevention, screening, and evidence-based management key strategies in reducing the burden of chronic disease.

Chronic diseases impact Mainers across the lifespan, and have far-reaching individual and social consequences. Lost productivity influences a person's ability to work and attend school.¹ For example, among children ages 5 to 17, asthma is the leading cause of school absences from a chronic illness, accounting for an annual loss of more than 14 million school days per year nationally (approximately eight days for each student with asthma).³ It is estimated that cancer, diabetes, heart disease, stroke, and pulmonary conditions like asthma cost Maine about \$4.3 billion dollars per year in lost productivity alone. These costs are in addition to the costs for treatment of chronic diseases.⁴

Chronic diseases are also the leading causes of death for Maine and United States residents. More than 60% of deaths among Maine residents in 2008 were caused by cancer, heart disease, stroke, chronic lower respiratory disease, and diabetes.⁵ The top four causes of death in Maine are chronic diseases: cancer, heart disease, chronic lower respiratory disease, and stroke. Diabetes was the seventh leading cause of death in Maine in 2008.⁶ Another impact for Maine is premature death. The average life expectancy for Maine residents is 77.5 years. Each of these five chronic diseases is also in the top ten causes in Maine of years of potential life lost before age 75, cutting the lives of Mainers short prematurely.⁷

Health Equity Highlight: Education Level

Maine adults with lower education levels are significantly more likely to have asthma, high blood pressure, diabetes, and other chronic diseases, and are significantly less likely to have received certain cancer screenings compared to those with more education.⁵

Among Maine adults with less than a high school education:

- Nearly 1 in 5 (19%) have asthma, 1 in 3 (37%) have high blood pressure, and 15% have diabetes. These rates are much lower among Maine adults who are college graduates; only 8.5% have asthma, 26% have high blood pressure, and 6% have diabetes.⁵
- Only 67% of those aged 50+ years have ever received a colonoscopy or sigmoidoscopy for colorectal cancer screening, compared to 80% of those with a high school education.⁵
- Only 78% of women aged 50+ years have received a mammogram for breast cancer screening within the past two years, compared to 87% of those with a high school education.⁵

Education levels can impact understanding of health information as well as access to health care. Education level is also associated with lifestyle behaviors and certain environmental exposures. These may explain some of the relationships between education levels and chronic disease.

According to the U.S. Centers for Disease Control and Prevention (U.S. CDC), much of the illness and disability associated with chronic disease is attributed to four primary health behaviors: physical inactivity, poor nutrition, tobacco use and excessive alcohol consumption. In fact, the U.S. CDC estimates that 80% of heart disease, 80% of diabetes, and 40% of cancers could be prevented if people would only do three things: eat healthy; be physically active; and not use tobacco.

The Public Health Response:

Effectively addressing chronic diseases takes multiple partnerships across Maine. If residents are exposed to messages that support healthy choices and those behaviors are reinforced and supported where people live, work, learn, and play, the healthy choice becomes the easy choice. State, district, and local partnerships can support the individual at multiple levels. Communities, schools, worksites, and healthcare organizations all play a role. For instance, an individual with supportive family, friends, and co-workers who lives in a community that promotes healthy choices and accesses healthcare providers that provide early detection, follow up, and self-management support is encouraged to manage their chronic disease.

Promoting healthy behavior changes (such as regular physical activity, healthy eating, and tobacco cessation) can both prevent and control chronic disease in Maine. Maintaining a healthy weight can help to prevent chronic disease and modest weight loss can help to control many chronic diseases such as prediabetes, diabetes and hypertension. Screening and follow up according to evidence-based guidelines is a key strategy in reducing the burden of chronic diseases. Early detection of chronic diseases is essential to proper treatment and medical care, reducing the risk of death from diseases such as breast, colorectal, oral, cervical, and skin cancer. Management of diseases like asthma, hypertension, high cholesterol, heart failure, and diabetes according to evidence-based guidelines can prevent more severe complications of these diseases, including acute health events, hospitalizations, and death. One component of early detection and management is adequate access to quality care.

The focus for chronic disease management over the next decade will be on key factors related to chronic disease prevention. Representatives from organizations across Maine prioritized the following areas in planning sessions:

- Early detection of late-stage breast and colorectal cancers;
- Promotion of healthy behaviors and self-management for those who have been diagnosed with hypertension, prediabetes, or diabetes; and
- Reducing emergency department use for asthma and hospitalizations for heart failure.

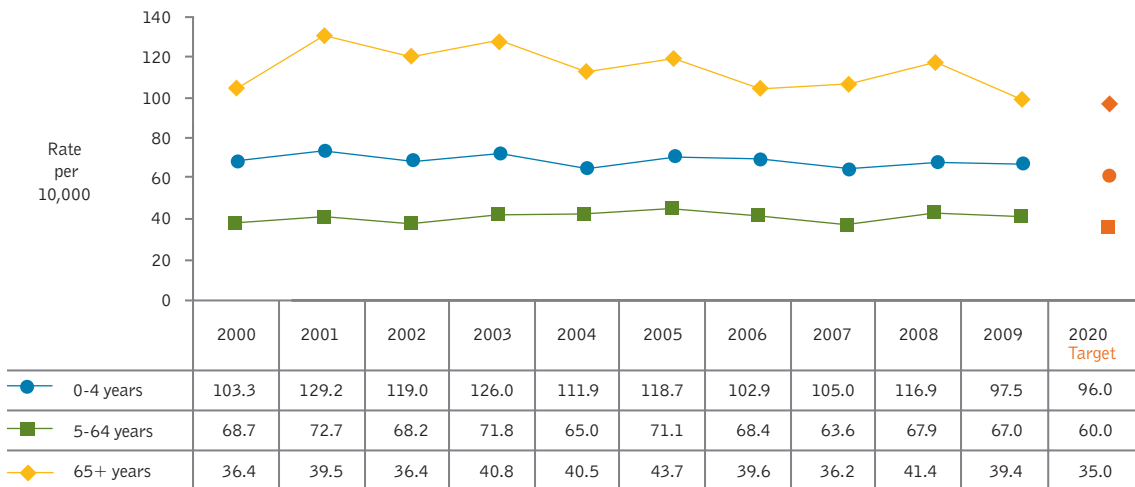
HM2020 Objectives

1. Reduce hospital emergency department visits for asthma

Many asthma-related emergency department (ED) visits can be prevented by proper management of the disease. The prevalence rate of current asthma among Maine adults has increased slightly, but not significantly, from 8.9% in 2000 to 10.0% in 2010; nationally the prevalence rate for adults with current asthma is 8.6%. Maine children ages 5-9 are disproportionately affected by asthma, with a current prevalence rate of 13.6%.

While the ED visit rate for Maine children less than 5 years of age fluctuates up and down from year to year (due to some imprecision in the point estimates), there was a significant decline in rates from 2001 to 2009. In 2009, 97.5 children under age 5 per 10,000 had visited the ED for asthma; the Healthy Maine 2020 goal is to reduce that to 96 per 10,000.

Age-specific ED visit Rate for Asthma (Principal Diagnosis), Per 10,000 Population, Maine 2000-2009



Source: Behavioral Risk Factor Surveillance System

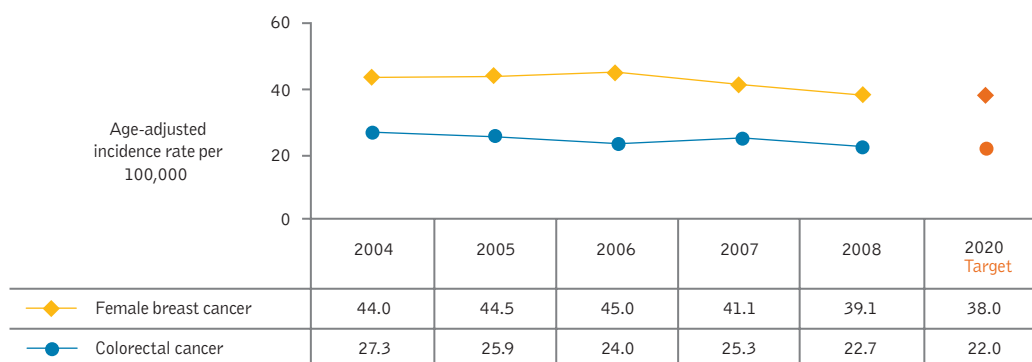
The ED visit rates for those aged 5-64 years and for those 65 or more years also vary considerably from year to year. In general, there was some improvement for age 5 to 64 over past decade, with perhaps a very slight decline, as rates in more recent years were generally slightly lower than those in earlier years. For those 65 and older, there was no improvement over past decade, as rates in recent years were similar to those of earlier years. In 2009 the rate of ED visits for those aged 5 to 64 years was 67 per 10,000 population, and for those aged 65 years or more the rate was approximately 40 per 10,000 population; the Healthy Maine 2020 goal is to reduce those respective rates to 60 and 35 per 10,000 population.

2. Increase the percentage of cancer detected at local stage

Detecting cancer at an early stage is an important strategy to decrease cancer death rates. The five-year overall survival rate for late-stage female breast cancer ranges from 15% to 67%, compared to 75% to 95% among those diagnosed at a local stage. The five-year overall survival rate for patients diagnosed with late-stage colorectal cancer range from 3% to 65%, compared to more than 90% among those diagnosed at local stage. Screening according to guidelines can detect more cancers at an early stage.

The trend chart shows that the incidence of late-stage female breast cancer in Maine declined between 2006 and 2008. The incidence of late-stage colorectal cancer in Maine also generally declined between 2004 and 2008. The most recent year of data indicated that there were 39.1 new late-stage female breast cancers diagnosed per 100,000

Incidence of Late-Stage Colorectal Cancer and Female Breast Cancer, Maine, 2004-2008



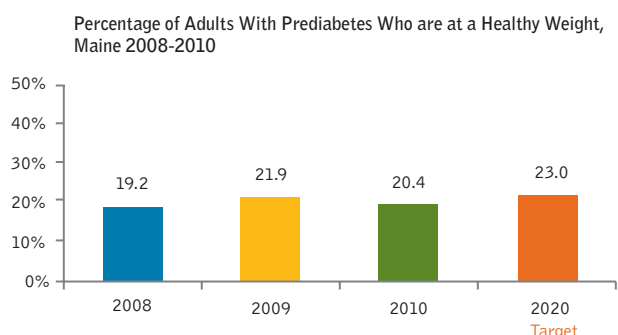
Data source: Maine Cancer Registry

population, and 22.7 new late-stage colorectal cancers diagnosed per 100,000 population; the Healthy Maine 2020 goal is to reduce those rates to 38 and 22 per 100,000 population, respectively.

3. Increase prevention behaviors in persons with prediabetes

People with prediabetes are at very high risk of developing diabetes. With increased prevention

a healthy weight. The Healthy Maine 2020 goal is for 23% of adults with prediabetes to be at a healthy weight.

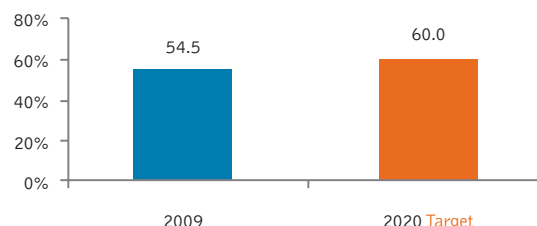


Data source: Maine Behavioral Risk Factor Survey

behaviors, people who are diagnosed with prediabetes can prevent or delay the onset of diabetes. Losing modest amounts of weight and being physically active can prevent or delay the onset of diabetes in people with prediabetes.

In Maine, the percentage of people with prediabetes who were at a healthy weight has not improved substantially since 2008, when just 19.2% were at

Percentage of Adults With Prediabetes Who are Getting Recommended Physical Activity, Maine, 2009



Data source: Maine Behavioral Risk Factor Survey

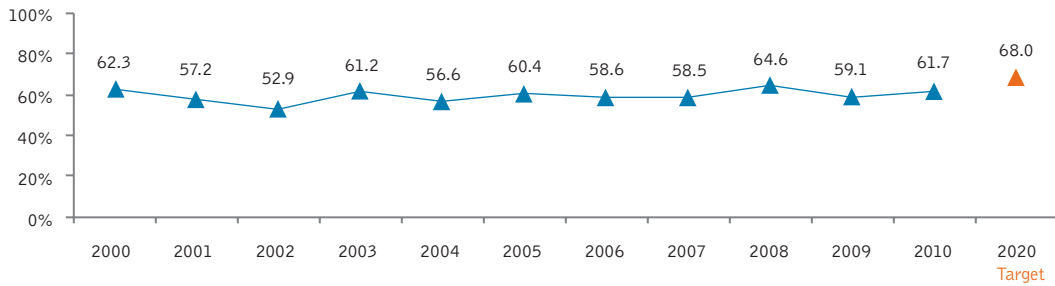
The percentage of adults with prediabetes who were getting enough physical activity was approximately 55% in 2009. The Healthy Maine 2020 goal is 60%.

4. Increase the proportion of persons with diagnosed diabetes who receive formal diabetes education

People with diabetes who receive formal diabetes training are better able to self-manage their diabetes and prevent or delay complications.

The percentage of Maine people with diabetes who have received formal diabetes training has varied somewhat from year to year, but has generally not

Percent of Adults With Diagnosed Diabetes Who Report Receiving formal Diabetes Training, Maine, 2000-2010



Data source: Maine Behavioral Risk Factor Survey

increased substantially over the decade. In 2010 61.7% of Mainers with diabetes had received formal diabetes training; the Healthy Maine 2020 goal is 68%.

5. Increase the proportion of adults with hypertension who meet the recommended guidelines

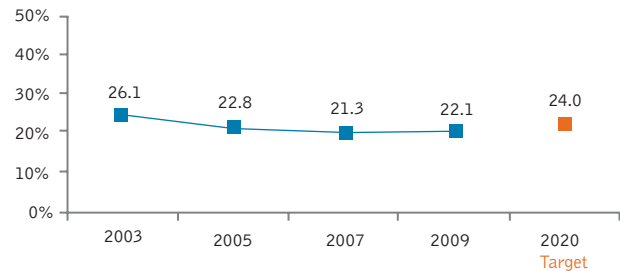
Hypertension (or high blood pressure) is a major risk factor for heart disease, stroke, and kidney disease. Losing a modest amount of weight, limiting sodium intake, engaging in regular physical activity, and avoiding heavy or binge drinking can help control hypertension and prevent complications.

Thirty percent of Maine adults report that they have been diagnosed with high blood pressure, similar to the national rate of 28.7%.

5a. Increase the proportion of adults who report having been diagnosed with hypertension who are at a healthy weight

The percentage of Maine adults with hypertension who were at a healthy weight declined somewhat between 2003 and 2005; the rate was stable for the rest of the decade. In 2009, 22.1% of adults with hypertension were at a healthy weight; the Healthy Maine 2020 goal is 24%.

Percentage of Adults With Hypertension Who Were at a Healthy Weight, Maine, 2003, 2005, 2007, 2009

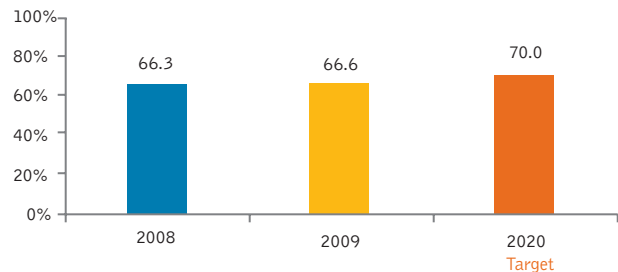


Data source: Maine Behavioral Risk Factor Survey

5b. Increase the proportion of adults who report having been diagnosed with hypertension who report cutting down on salt

The percentage of Maine adults with hypertension who reported cutting down on salt did not change from 2007 to 2009. In 2009 66.6% of adults with hypertension were cutting down on salt; the Healthy Maine 2020 goal is 70%.

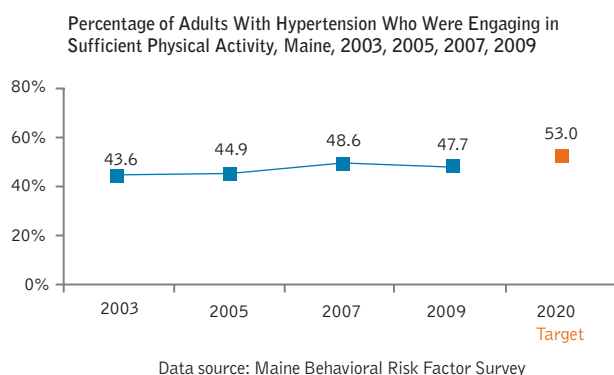
Percentage of Adults With Hypertension Who Were Cutting Down on Salt, Maine, 2007, 2009



Data source: Maine Behavioral Risk Factor Survey

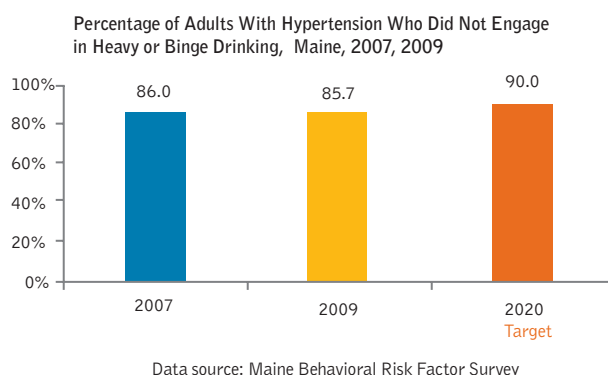
5c. Increase the proportion of adults who report having been diagnosed with hypertension who report engaging in the recommended amount of physical activity

The percentage of Maine adults with hypertension who were engaging in the recommended level of physical activity increased somewhat from 2003 through 2007, and has since been stable. In 2009 approximately 48% of adults with hypertension were engaging in sufficient physical activity; the Healthy Maine 2020 goal is 53%.



5d. Increase the proportion of adults who report having been diagnosed with hypertension who report no heavy or binge drinking

The percentage of adults with hypertension who did not engage in heavy or binge drinking did not improve between 2007 and 2009. In 2009 approximately 86% of adults with hypertension did not engage in heavy or binge drinking; the Healthy Maine 2020 goal is 90%.



6. Reduce hospitalizations of older adults with heart failure as the principle diagnosis

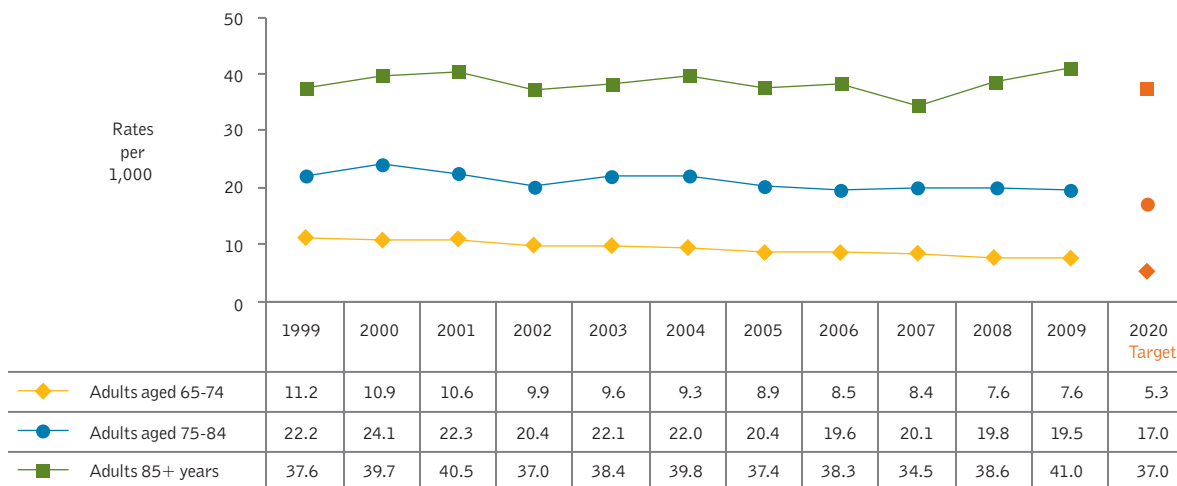
People with heart failure are six to nine times more likely to suffer sudden cardiac death than the general population. Heart failure hospitalizations have been increasing over time in the U.S.

Fortunately, heart failure can be prevented by treating or preventing conditions that lead to heart failure (like hypertension, coronary heart disease, and heart attack) and evidence-based medical management of heart failure can improve outcomes.

Among Maine residents 65-74 years of age, there was a steady decline of 32% in the heart failure hospitalization rate between 1999 (11.2 hospitalizations/1,000 population) and 2009 (7.6 hospitalizations/1,000 population). The Healthy Maine 2020 goal is to reduce this rate to 5.3 hospitalizations per 1,000 population.

Among Maine residents 75-84 years of age, the heart failure hospitalization rate varied slightly from year to year, however between 1999 and 2009 it declined 12% from 22.2 hospitalizations per 1,000 to 19.5. The Healthy Maine 2020 goal is to reduce that rate to 17 hospitalizations per 1,000.

Among Maine residents over the age of 85, the heart failure hospitalization rate varied considerably from year, making it somewhat difficult to interpret the trend. But, in general, the heart failure hospitalization rate did not improve between 1999 and 2009; and rates may have increased in recent years. In 2009 there were 41 hospitalizations for heart failure per 1,000 population. The Healthy Maine 2020 goal is to reduce this rate to 37 hospitalizations per 1,000.



Data source: Maine Inpatient Database

Methodology notes

1. Reduce hospital emergency department visits for asthma

SUB OBJECTIVES:

- 1a. Reduce hospital emergency department visits for asthma among children under 5 years.
- 1b. Reduce hospital emergency department visits for asthma among children and adults aged 5 to 64 years.
- 1c. Reduce hospital emergency department visits for asthma among adults aged 65 years and older.

Measures: Rate of emergency department visits for asthma (principal diagnosis) per 10,000 population in the age group.

Numerators: Number of Maine resident people in each age group with an emergency department visit for asthma as a principal diagnosis.

Denominators: Number of Maine residents in each age group.

Date source: Maine ED Database created from Maine Inpatient and Outpatient Databases. Asthma: ICD-9-CM code 493 (493.xx) as principal diagnosis.

Target setting method: 10% decline (from the 2007-2009 3-year average for children under age 5; from the 2009 rate for other age groups).

Other notes: The measure is the same as Healthy People 2020, but the data source is different. HP2020 uses the National Hospital Ambulatory Medical Care Survey, which does not provide state-level data.

2. Increase the percentage of cancer detected at local stage

SUB OBJECTIVES:

- 2a. Reduce the incidence rate of late-stage female breast cancer.

Measure: Age-adjusted incidence rate of female breast cancers diagnosed at late-stage. Incidence rates are per 100,000 and age adjusted to the 2000 U.S. standard population.

Numerator: Number of new female breast cancers diagnosed at late-stage during a year. Late-stage breast cancers include cancers classified as regional or distant in SEER summary stage 2000 system.

Denominator: Estimated total female population during that year.

Target setting method: 10% decline from the 2006-2008 3-year average.

- 2b. Reduce the incidence rate of late-stage colorectal cancer.

Measure: Age-adjusted incidence rate of colorectal cancer diagnosed at late-stage. Incidence rates are per 100,000 and age adjusted to the 2000 U.S. standard population.

Numerator: Number of new colorectal cancers diagnosed at late-stage during a year. Late-stage colorectal cancers include cancers classified as regional or distant in SEER summary stage 2000 system.

Denominator: Estimated total population during that year.

Target setting method: 10% decline from the 2006-2008 3-year average. The measure is the same.

Other notes: This measure is different from the Healthy People 2020 measure. The Healthy people 2020 objective focuses on reducing invasive colorectal cancers. Invasiveness of a tumor is determined by histology of tumor (ICD-O-3). The Healthy Maine 2020 objective focuses on reducing late-stage colorectal cancer incidence. Late stage is determined by Derived Summary staging method.

3. Increase prevention behaviors in persons with prediabetes

SUB-OBJECTIVES:

- 3a. Increase the proportion of adults diagnosed with prediabetes who report engaging in the recommended amount of physical activity.

Measure: Percentage of adults who report being diagnosed with prediabetes who report engaging in the recommended amount of physical activity (30+ minutes of moderate physical activity five or more days per week, or vigorous physical activity for 20+ minutes three or more days per week).

Numerator: Number of adults who report being diagnosed with prediabetes and who report engaging in the recommended amount of physical activity.

Denominator: Number of adults who report being diagnosed with prediabetes and who responded to physical activity questions.

Target setting method: 10% increase from the 2009 prevalence.

Other notes: Data are statistically weighted to be more representative of the general adult population of Maine and to adjust for non-response. Created variable for prediabetes using prediab1 and prediab. Per SH code preidab1 2 = no, or only during pregnancy to be compatible with prediab. Recommended amount of physical activity is 30+ minutes of moderate physical activity five or more days per week, or vigorous physical activity for 20+ minutes three or more days per week. The HP2020 measure is slightly different: to increase the proportion of persons at high risk for diabetes with prediabetes who report increasing their levels of physical activity. The measure here is the most comparable Maine data available.

3b. Increase the proportion of adults diagnosed with prediabetes who are at a healthy weight.

Measure: Percentage of adults who report being diagnosed with prediabetes who have a BMI ≥ 18.5 and < 25

Numerator: Number of adults who report being diagnosed with prediabetes and whose BMI is ≥ 18.5 and < 25

Denominator: Number of adults who report being diagnosed with prediabetes and who have a valid (non-missing) BMI.

Target setting method: 10% increase from the 2009 prevalence.

Other notes: Data are statistically weighted to be more representative of the general adult population of Maine and to adjust for non-response. Created variable for prediabetes using prediab1 and prediab. Per SH code preidab1 2 = no, or only during pregnancy to be compatible with prediab. Created BMI variable from continuous BMI variables (_BMI4 and/or _BMI2) since calculated variable included individuals < 18.5 .

2009 data has a numerator < 50 . The HP2020 measure is slightly different: to increase the proportion of persons at high risk for diabetes with prediabetes who report trying to lose weight. The measure here is the most comparable Maine data available.

4. Increase the proportion of persons with diagnosed diabetes who receive formal diabetes education

Measure: Percentage of adults with diagnosed diabetes who report receiving formal diabetes training.

Numerator: Number of adults with diagnosed diabetes who report receiving formal diabetes training.

Denominator: Number of adults with diagnosed diabetes (excluding gestational diabetes and prediabetes)

Target setting method: 10% increase from the 2010 prevalence (61.7).

Other notes: Data are statistically weighted to be more representative of the general adult population of Maine and to adjust for non-response. The numerator and denominator and the data source are as for Healthy People 2020, but the HP2020 is age adjusted, while the HM2020 measure is not. For this reason, they cannot be directly compared.

5. Increase the proportion of adults with hypertension who meet the recommended guidelines

SUB-OBJECTIVES:

5a. Increase the proportion of adults who report having been diagnosed with hypertension who are at a healthy weight.

Measure: Percentage of adults with hypertension who have BMI ≥ 18.5 and < 25.0 .

Numerator: Number of adults who report having been diagnosed with hypertension and who report a BMI ≥ 18.5 and < 25.0 .

Denominator: Number of adults with hypertension with a valid (non-missing) BMI.

Target setting method: 10% increase from the 2009 prevalence.

Other notes: Data are statistically weighted to be more representative of the general adult population of Maine and to adjust for non-response. Created BMI variable from continuous BMI variables ($_BMI4$ and/or $_BMI2$) since calculated variable included individuals < 18.5 . Similar HP2020 measure is developmental.

5b. Increase the proportion of adults who report having been diagnosed with hypertension who report cutting down on salt.

Measure: Percentage of adults with hypertension who report cutting down on salt.

Numerator: Number of adults who report having been diagnosed with hypertension and report cutting down on salt.

Denominator: Number of adults with hypertension who responded to the question on whether they are cutting down on salt.

Target setting method: 5% increase from the 2009 prevalence, consistent with the target already established in 2011-2020 Statewide CVH/Diabetes Plan.

Other notes: Data are statistically weighted to be more representative of the general adult population of Maine and to adjust for non-response. Those who responded that they did not use salt were grouped into the “not cutting down on salt” category because the vast majority of sodium in the diet is through processed foods, not through consumer use. Similar HP2020 measure is developmental.

5c. Increase the proportion of adults who report having been diagnosed with hypertension who report engaging in the recommended amount of physical activity.

Measure: Percentage of adults with hypertension who engage in recommended amount of physical activity.

Numerator: Number of adults who report having been diagnosed with hypertension and report 30+ minutes of moderate physical activity five or more days per week, or vigorous physical activity for 20+ minutes three or more days per week.

Denominator: Number of adults with hypertension who responded to the physical activity questions.

Target setting method: 10% increase from the 2009 prevalence.

Other notes: Data are statistically weighted to be more representative of the general adult population of Maine and to adjust for non-response. Used this variable in BRFSS multiyear dataset: _RFPAREC. Recommended amount of physical activity: 30+ minutes of moderate physical activity five or more days per week, or vigorous physical activity for 20+ minutes three or more days per week. Similar HP2020 measure is developmental.

- 5d. Increase the proportion of adults who report having been diagnosed with hypertension who report no heavy or binge drinking.

Measure: Percentage of adults with hypertension who report no heavy or binge drinking.

Numerator: Number of adults who report having been diagnosed with hypertension and report: For men, not having five or more drinks on one occasion and not having more than two drinks per day on average. For women, not having four or more drinks on one occasion and not having more than one drink per day on average.

Denominator: Number of adults with hypertension who responded to the alcohol consumption questions.

Target setting method: 5% increase from the 2009 prevalence.

Other notes: Data are statistically weighted to be more representative of the general adult population of Maine and to adjust for non-response. Created variable for no heavy or binge using: _RFDRHVV and _RFBING4. Similar HP2020 measure is developmental.

6. Reduce hospitalizations of older adults with heart failure as the principle diagnosis

SUB-OBJECTIVES:

- 6a. Reduce hospitalizations of adults aged 65-74 years with heart failure as the principal diagnosis.
- 6b. Reduce hospitalizations of adults aged 75-84 years with heart failure as the principal diagnosis.
- 6c. Reduce hospitalizations of adults aged 85+ years with heart failure as the principal diagnosis.

Measure: Age-specific hospitalization rate for heart failure (principal diagnosis) per 1,000 population. Heart failure: ICD-9-CM code 428 (428.xx) as principal diagnosis.

Numerator: Number of Maine residents in each age group with a hospitalization for heart failure as the principal diagnosis.

Denominator: Number of Maine residents in each age group.

Target setting methods: 30% decline from the 2009 rate for adults aged 65-74 years, 10% decline from the 2009 rate for other age groups.

Other notes: This is similar to the Healthy people 2020 objective, with a slight difference in the data source. The age groups and ICD-9-CM codes are the same. The HP2020 measure data source is the CMS Chronic Condition Data Warehouse, which contains Medicare and Medicaid beneficiary, claims, and assessment data linked by beneficiary across the continuum of care. The major difference between this and our Maine Inpatient Database is that the Maine Inpatient Database is a database of inpatient visits, while the CMS Chronic Condition Data Warehouse is a database of individuals.

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Environmental Health

Background:

Environmental health is a varied field that links environmental conditions with human health effects. Its scope is large and covers a range of topics that includes bedbugs and high-level radioactive waste. At its core, it strives to promote health and prevent or minimize exposures that may have adverse health effects. It encompasses the air we breathe, the food we eat, and the places where we live, play and work.

An intricate system of national and state laws and rules formally regulate some of the work such as drinking water, septic systems, food safety, public pools and spas, camps, hotels, motels, school kitchens, tattooing and others. These programs include the very foundations on which public health has been built — the provision of safe drinking water and the proper disposal of human waste. In Maine, these programs have existed for nearly 100 years.

Environmental health performs other necessary functions. It provides the public with credible science-based data that helps them to make decisions that can affect the quality of their own lives. It guides people to take simple actions that can be life-saving, such as installing carbon monoxide monitors outside of bedroom doors, or measuring the radon levels in their home.

Maine people face specific environmental challenges resulting from our physical position on the globe, from our geology, and from many other factors. Maine houses are old and contain lead paint that can harm children and adults. Geographically, Maine is situated at the end of nation's tailpipe which means that prevailing winds carry other states' air pollution here and that adversely affects our air quality. Some parts of the state are underlain with thick mineral-laden bedrock which can contribute harmful levels of arsenic, uranium and radon to unaware private well owners. Fortunately, systems are in place that can help Mainers cope with these issues.

Health Equity Highlight: Lead Poisoning in Low Socio-Economic Status Populations

Childhood Lead Poisoning in Maine is associated predominantly with dust from lead paint found in homes built before 1950.¹ Approximately 100 children under age 6 years are poisoned by lead each year in Maine.²

Certain populations are at high risk for lead poisoning:

- Four out of five (84%) children identified with lead poisoning in 2011 were also MaineCare recipients.³
- The childhood lead poisoning rate in the Lewiston-Auburn area is 2.9% nearly three times more than the state average rate of 1%.³
- Half (50%) of all children identified with lead poisoning in Lewiston in 2011 were of African descent.³
- The Somali and Somali Bantu populations in the Lewiston-Auburn area appear to be at higher risk.³

The Public Health Response:

An important part of environmental health is responding to on-going or emergency man-made or natural threats such as food or waterborne disease outbreaks, floods or ice-storms; even the earthquake, tsunami and nuclear power plant damage that occurred in 2011 half-way across the world in Japan and whose effects were closely monitored here in Maine.

The public has a strong expectation that the activities they enjoy or participate in are safe — and that some entity is responsible for insuring their safety. To this end, significant progress has been made in helping Maine people enjoy safe and healthy lives by reducing risks in the environment. Proper planning and sufficient surge capacity are crucial to the state's ability to handle sudden, unexpected environmental health emergencies.

At the same time, chronic exposures, like trace drinking water contaminants, lead paint and radon, require ongoing, sustained, incremental efforts.

The public health response, however, requires understanding environmental health-related conditions. This requires strong surveillance and reporting systems that include integrated state, regional, and local components. Information gathered in these reporting systems will help us to look for associations between the environment and disease and allow us to target our prevention programs to continue to minimize the contributions of environmental risk factors for disease.

Healthy Maine 2020 Objectives

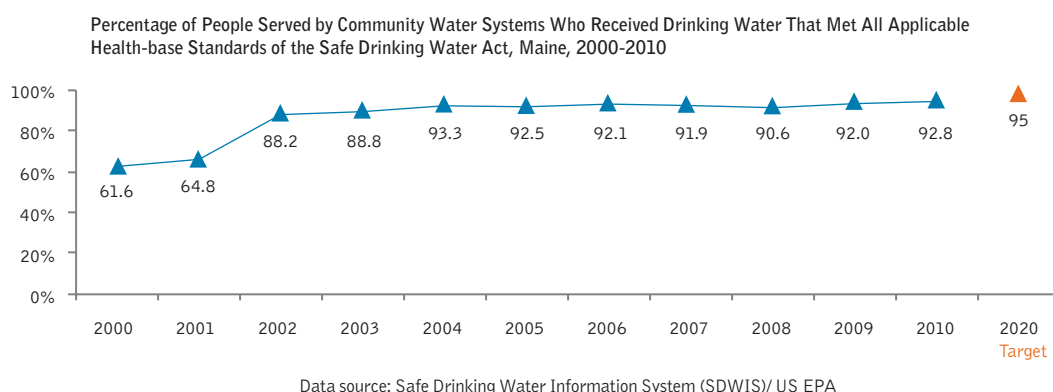
1. Increase the proportion of persons served by community water systems who receive a supply of drinking water that meets the requirements of the Safe Drinking Water Act

This indicator illustrates how successful public water systems are at meeting the health-based standards of the Safe Drinking Water Act. Safe

drinking water is critical to reducing exposure to infectious agents and toxic chemicals, both naturally occurring and those introduced by human activities, including hydrocarbon use, agronomic activities, and waste disposal.

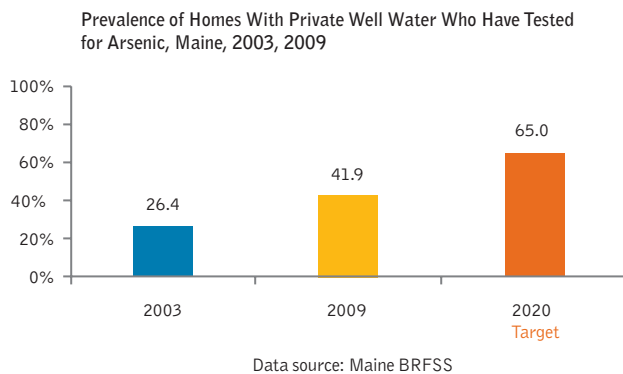
Maine's public water systems have very good rates of compliance with water quality standards; but according to the U.S. EPA, these systems will need \$900 million in infrastructure maintenance and improvements over the next 20 years to maintain quality and service,⁴ illustrating the need to continue to track the success of water systems in meeting water quality standards.

Since 2000, an increasing number of Maine people served by public water systems have been receiving water that meets all applicable health based standards, although the rate of change has been slow in the past 6 years (it has been around 92%; the Healthy Maine goal is 95%).



2. Increase proportion of homes with private wells tested, and, where necessary, treated for arsenic

Of all the 50 states, Maine has the highest per capita reliance on private wells for drinking water (44%), based on census figures. Over half of Maine's population relies on private well water as their primary source of drinking water. In Maine, public and private testing data indicate that 10% of private wells have unsafe amounts of arsenic, 5% have unsafe levels of uranium and as much as a third may have high levels of radon.⁶ Arsenic and radon are known human carcinogens. Arsenic may also cause adverse effects on the developing brain, including IQ deficits.



Uranium is both a cancer causing substance and has kidney toxicity.⁵ Therefore, it is important to track changes in water testing practices, and arsenic testing in particular was selected for this measure due to combination of high prevalence in Maine well water and the greater possibility for adverse health effects.

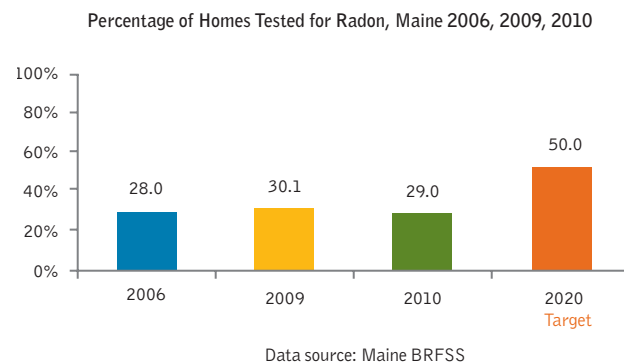
The percent of homes in Maine with private well water that are tested for arsenic has increased from 26.4% (2003) to 41.9% (2009); the Healthy Maine 2020 goal is to increase that to 65%.

3. Increase the proportion of homes tested for radon

Radon is the second leading cause of lung cancer after active smoking and the leading cause among non-smokers.⁷ Radon causes an estimated 21,000 lung cancer deaths in the U.S. every year.⁸ About 1/3 of all Maine residences have elevated levels of radon.⁹

In 2009, Maine passed legislation that requires testing for the presence of radon in rental buildings by 2012 and every 10 years thereafter.

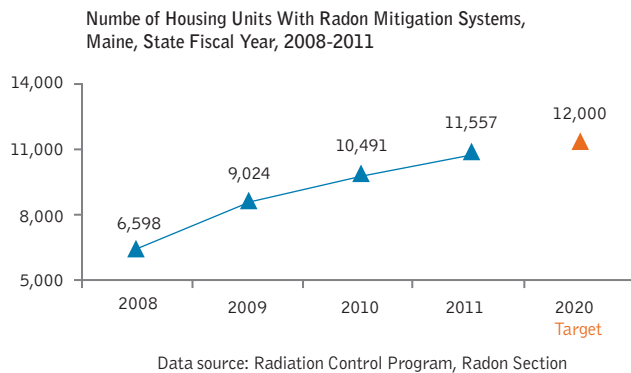
The percent of Maine homes that have been tested indoor air for radon has not changed since 2006,



when it was 28%. The Healthy Maine 2020 goal is 50%.

4. Increase the number of homes with an operating radon mitigation system for persons living in homes at risk for radon exposure

Maine has many buildings with elevated radon, with previous studies showing an average of 1/3 of buildings statewide having elevated radon. Some areas in Maine have elevated radon in up to 2/3 of buildings.¹⁰ Mitigation systems can reduce radon to levels well below the level of concern.



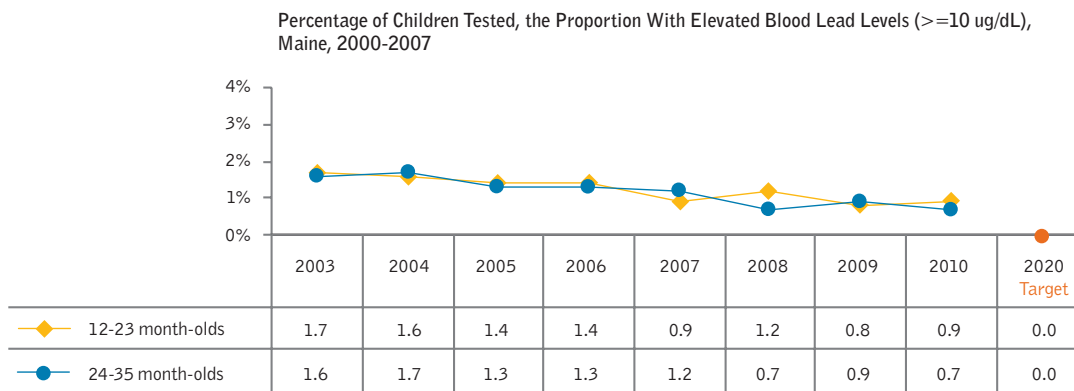
In 2009 there were 11,557 Maine housing units with radon mitigation systems; the Healthy Maine 2020 goal is 12,000.

5. Reduce the proportion of children with elevated blood lead levels

There is no safe amount of lead exposure for children. Changes in cognitive function related to even low-level lead exposure have been shown to affect school performance, educational attainment, and IQ scores.¹¹ The association between lead

exposure and IQ and future income earnings is well established in the scientific literature.¹² Studies have shown that at current levels of lead exposure, each new cohort of five-year old children in Maine (approximately 13,000 children) will suffer on average a one-point loss in IQ score and as a result can expect to earn as an aggregate \$270 million less over their lifetimes.¹³ Recently the lead standard has been lowered from ≥ 25 ug/dl to ≥ 10 ug/dl, as new information on the dangers of lead has come to light.

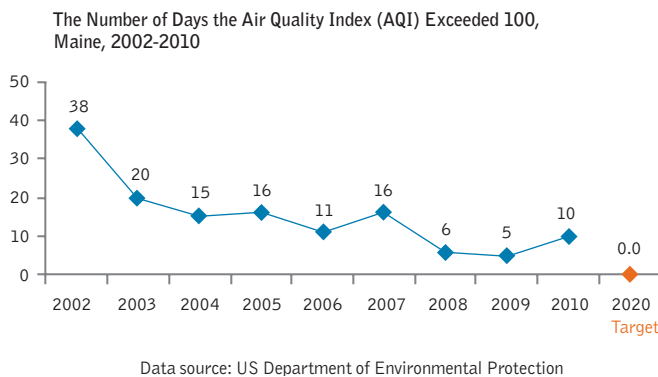
Childhood lead poisoning is completely preventable. In Maine, the proportion of elevated blood levels in children tested has been decreasing significantly over time. In 2003, approximately 1.7% of tested children aged 12-23 months old had elevated blood levels, which dropped to .9% in 2010. In 24-35 month-old children the rate decreased from 1.6% in 2003 to .7% in 2010. The Healthy Maine 2020 goal is 0% for each age group.



Data source: Healthy Homes Lead Poisoning Surveillance System

6. Reduce the number of days the Air Quality Index (AQI) exceeds 100

Due to regional and national efforts to reduce pollution, ozone and particle pollution levels in Maine exceed the AQI level of 100 less often than in the past. Since Maine's pollution levels are largely due to transport of air pollutants, much depends on the weather during any given year. However, pollution levels are not as high as they have been in the past, even during ideal transport conditions.



The Maine Department of Environmental Protection keeps records on the number of days when the AQI is between 50 and 100 (the category of “moderate”), and over 100 (including the categories of “unhealthy for sensitive groups,” “unhealthy,” and “very unhealthy”) based on its air quality monitoring data. This indicator is a measure of the number of days air pollution levels in Maine exceeded the national ambient air quality standards.

In recent years there has been a gradual downward trend in the number of days with poor air quality. In 2010 there were just 10 days in which the AQI exceeded 100, compared to 2002 which experienced 38 such days. The Healthy Maine 2020 goal is 0 days.

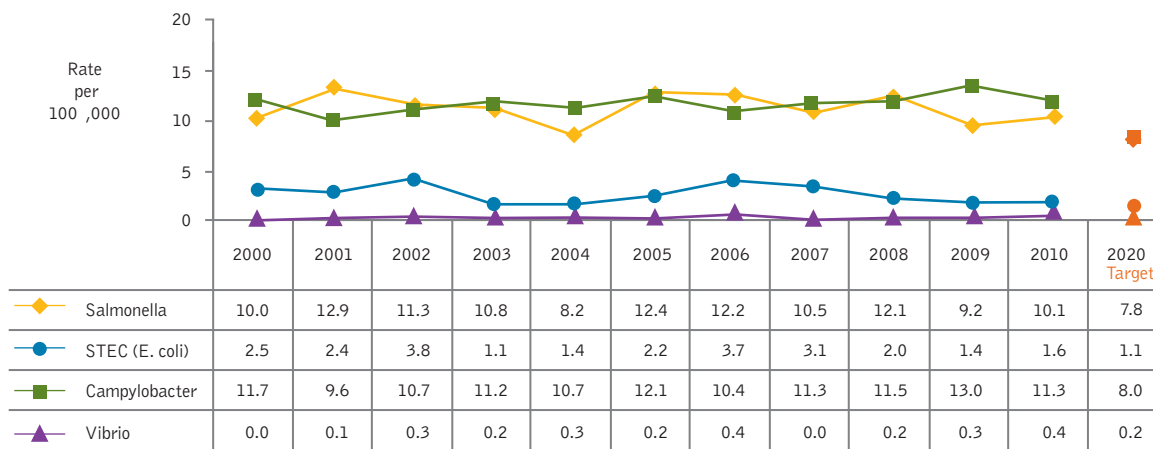
7. Reduce infections caused by key pathogens transmitted commonly through food

In 2011, Maine regulated 6,300 eating establishments and received 100 food-borne illness complaints from the public. Recent rule changes designed to improve food safety requires some eating establishments to retain a Certified Food Protection Manager (CFPM). The US FDA's research has shown that the presence of a CFPM decreases the occurrence of food-borne illness. Food-borne diseases affect tens of millions of people and kill thousands in the United States each year. They also result in billions in healthcare-related and industry-related costs annually.¹⁴

Campylobacter, Shiga toxin-producing E. coli (STEC), Salmonella, and Vibrio are pathogens commonly transmitted through food. Food-borne illnesses can be prevented through proper hand-washing, proper food storage, preparation, service and clean food preparation areas, including those in licensed eating establishments.

Maine CDC maintains systems to track case of gastrointestinal illness that are reported. Salmonella cases have remained relatively constant over the past 10 years. STEC cases have decreased each year, Campylobacter cases continue to increase. In 2010 there were 10.1 cases of salmonella per 100,000 persons, 1.6 cases of STEC per 100,000 persons, 11.3 cases of Campylobacter per 100,000 persons, and 0.4 cases of Vibrio per 100,000 persons; the Healthy Maine 2020 goals are to reduce the rates to 7.8, 1.1, 8.0, and 0.2 per 100,000 persons respectively.

Rate of Infections per 100,000 Population, Caused by Key Pathogens Transmitted Commonly Through Food, by Pathogen, Maine 2000-2010



Source: Behavioral Risk Factor Surveillance System

Methodology notes

1. Increase the proportion of persons served by community water systems who receive a supply of drinking water that meets the requirements of the Safe Drinking Water Act

Measure: Percentage of persons served by community water systems who will receive drinking water that meets all applicable health based standards of the Safe Drinking Water Act.

Numerator: Persons served by community water systems who receive a supply of drinking water that meets all applicable health based standards of the Safe Drinking Water Act.

Denominator: Total population served by community water systems.

Target setting method: Two percentage points improvement, based on past trends.

Other notes: Violation data from the Safe Drinking Water Information System (SDWIS) is used to determine which community water systems are meeting all applicable health based standards. The objective used by HM2020 matches an existing objective used by the US EPA to measure the success of Maine's public water systems. The objective is similar to HP2020. HP2020 uses all standards of the Safe Drinking Water Act while HM2020 and the US EPA use all applicable health based standards of the Safe Drinking Water Act.

2. Increase proportion of homes with private wells tested, and, where necessary, treated for arsenic and other substances of concern

Measure: Percent of homes with private wells tested for arsenic.

Numerator: Number of homes with private well water that have tested for arsenic in their well water.

Denominator: Number of homes with private well water (not limited to homes who have tested their water).

Target setting method: About the same rate of increase observed for last decade (2000 - 2010) – 60% increase.

Other notes: The HP2020 objective is based on reducing arsenic levels as measured in urine. The HM2020 objective is based on increased environmental testing of private well water for arsenic as a means to reduce arsenic exposure, which will have the effect of reducing arsenic urine levels.

3. Increase the proportion of homes tested for radon

Measure: Percent of homes tested for radon.

Numerator: Number of homes who have tested air for radon.

Denominator: Number of households in the BRFSS survey.

Data source: BRFSS. These data have been weighted to the household and not the individual. Therefore, estimates represent 'the percent of households.'

Target setting method: Approximately 40% based on past trends and new legislation that will significantly impact this measure.

Other notes: The Healthy People 2020 measure is focused on the number of homes with high radon levels that have been mitigated (see below). This new HM2020 objective is focused on increasing the percent of homes that have tested the indoor air for the presence of radon.

4. Increase the number of homes with an operating radon mitigation system for persons living in homes at risk for radon exposure

Measure: Number of housing units with radon air mitigation systems.

Numerator: Number of housing units with radon air mitigation systems. (There is no denominator for this measure.)

Data source: Radiation Control Program, Radon Section.

Target setting method: Approximately 4% based on past trends and Maine CDC expert opinion.

Other notes: These data are not weighted. Reported values for mitigations are total radon air mitigations reported between Oct 1, 1993, when reporting began, to the end of the previous state fiscal year. Radon air mitigation reporting is required by 22 MRSA Section 771 et seq. The end of the state fiscal year is being used as the cut-off point because all radon funding is from a federal grant, which requires as one measure of achievement, reporting of mitigations during the grant period which matches the state fiscal year. Data begins in 2008 as this is the first year this data was reported for the Federal radon grant. This is similar to a Healthy People 2020 objective (the amount of radon mitigations systems installed relative to the number of housing units), but uses a different data source. The Maine data source does not have information on the number of homes that have elevated radon levels, and therefore this is presented as a count, not a proportion.

5. Reduce the proportion of children with elevated blood lead levels

SUB-OBJECTIVES:

5a. Reduce the proportion of children ages 12-23 months with elevated blood lead levels

5b. Reduce the proportion of children ages 24-35 months with elevated blood lead levels

Measure: Of those children tested, the proportion with elevated blood lead levels (≥ 10 ug/dL).

Numerators: Children ages 12-23 months, and 24-35 months, with blood lead levels greater or equal to 10ug/dl, defined as the first identification for that child as a case (not including follow up testing).

Denominator: Children ages 12-23 months, and 24-35 months, whose blood has been tested for lead, (first blood lead test in age category).

Target setting method and other notes: This is a HP2020 objective. The target matches a goal set by the Maine legislature in the State's Lead Poisoning Control Act (22 MRSA §1314-A).

6. Reduce the number of days the Air Quality Index (AQI) exceeds 100

Measure: Number of days the Air Quality Index (AQI) exceeds 100.

Numerator: Number of days the Air Quality Index (AQI) exceeds 100. (There is no denominator for this measure.)

Target setting method and other notes: This is a HP 2020 objective. The target was set based on the regulatory goal of the Clean Air Act (i.e., attainment of the air quality standards) along with the downward trends in Maine over recent years.

7. Reduce infections caused by key pathogens transmitted commonly through food

SUB-OBJECTIVES:

7a. Reduce infections caused by Salmonella.

Measure: Rate of Salmonella cases per 100,000 population.

7b. Reduce Infections caused by shiga toxin-producing E. coli (STEC).

Measure: Rate of STEC cases per 100,000 population.

7c. Reduce infections caused by Campylobacter species.

Measure: Rate of Campylobacter cases per 100,000 population.

7d. Reduce infections caused by Vibrio species.

Measure: Rate of Vibrio cases per 100,000 population.

Numerators for all: Number of probable and confirmed cases.

Denominator for all: Estimate of Maine population for each year calculated.

Data Source for all: National Electronic Disease Surveillance System (NEDSS) Based System (NBS)

All positive laboratory reports are required by law to be reportable to Maine CDC. All reported cases are investigated and classified based on CDC/CSTE case definitions.

Target setting method and other notes: This is a Healthy people 2020 objective, and the targets are the same as for HP2020:

- 7a. 25% improvement (based on 3 year average, 2008-2010)
- 7b. 50% improvement (based on 3 year average, 2008-2010)
- 7c. 33% improvement (based on 3 year average, 2008-2010)
- 7d. 25% improvement (based on 3 year average, 2008-2010)

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Infectious Disease

Overview

Infectious disease mortality rates in the U.S. decreased throughout the first eight decades of the 20th century, due primarily to vaccinations and improvements in living conditions, sanitation, and medical care.¹ In recent decades we have seen the influence of new risk factors affecting the incidence of infectious disease including decreases in population wide vaccination coverage, late diagnosis of communicable diseases such as HIV/AIDS and Hepatitis C, and the emergence of multidrug resistant strains of pathogens.

Health Equity Highlight: New Mainers

Tuberculosis

Tuberculosis (TB) is a mycobacterial disease caused by *Mycobacterium tuberculosis*. The disease is spread through the air by droplets when a person infectious with TB coughs, talks, sings, or sneezes. TB is only infectious when the disease is within the lungs or larynx. Latent tuberculosis infections (LTBI) are inactive and require medication to prevent active infectious TB from developing.

Maine CDC TB Control Program monitors the incidence of TB through mandatory reporting and assists with monitoring and managing both TB and LTBI cases. In 2010 there were 8 cases of TB and 420 cases of LTBI reported to Maine CDC. Eighty-eight percent of the TB cases and 80% of LTBI cases were diagnosed among foreign born persons.⁶

Maine CDC Public Health Nursing provides assessment of immunization and current health status, communicable disease history and referral for medical and dental care for New Mainers. Screening for TB is part of this assessment and results in early identification and management of disease in this population.⁷

Approximately 42,000 adults and 300 children in the U.S. die each year from vaccine-preventable diseases.² In addition, healthcare associated infections (HAI) are among the top ten causes of death in the U.S., resulting in approximately 99,000 deaths annually at a cost of \$33 billion.³ Advances in laboratory diagnostics allowing for earlier disease recognition has offered opportunities to impact the lives of those under treatment and to institute earlier disease control responses for initiation of prophylaxis to close contacts.⁴

Infectious diseases seen in Maine include those which circulate commonly in the United States (of which some diseases are vaccine preventable and some are not). Infectious diseases may also be imported into Maine from residents that travel (to other regions of the US as well as the world), from visitors to the state, and from recently arriving foreign-born refugees, secondary migrants, asylum seekers, asylees, non-refugee immigrants (includes adoptees) and parolees.⁵

The Public Health Response

Infectious disease morbidity and mortality can be decreased through surveillance systems and registries that help to identify cases of disease early in the course of disease and to track prevention efforts such as immunization. Reporting of cases of notifiable infectious diseases in Maine is mandatory in Maine. Maine CDC conducts public health surveillance and responds to prevent additional transmission of communicable diseases.

Education targeted to both the public and healthcare providers is essential to update and remind individuals and professionals on recent prevention guidelines. Educational outreach to health care providers and to populations at risk for specific diseases, such as HIV⁸ and Hepatitis C⁹ can also lead to increased screening and increased case finding. Earlier and increased knowledge of

disease status can provide opportunities for disease prevention through treatment and for education about behaviors to reduce the risk of transmission to others.¹⁰ Educational outreach to the public and provider on the importance of immunization is essential to support the effort to increase vaccination coverage among Maine residents.¹¹

Vaccination requirements for entry into childcare, school, college, and other post-high school educational institutions ensure high levels of protection in these facilities and help achieve high levels of vaccination coverage in the community. Despite vaccination requirements for school admission, there are many students in Maine who are not vaccinated and are susceptible to disease. Recently, efforts to increase immunization coverage among Maine children have led to a private-public partnership for a universal program to supply vaccines free of charge to children. The program supplies all recommended childhood vaccines free of charge to healthcare providers in the State. Universal vaccine supply for children in Maine will reduce the financial barriers for parents and enable access to all recommended childhood vaccines with no or low out-of-pocket costs. In addition to universal vaccine supply, Maine CDC conducts outreach to healthcare providers and the community on the importance of vaccination and encourages healthcare providers to utilize

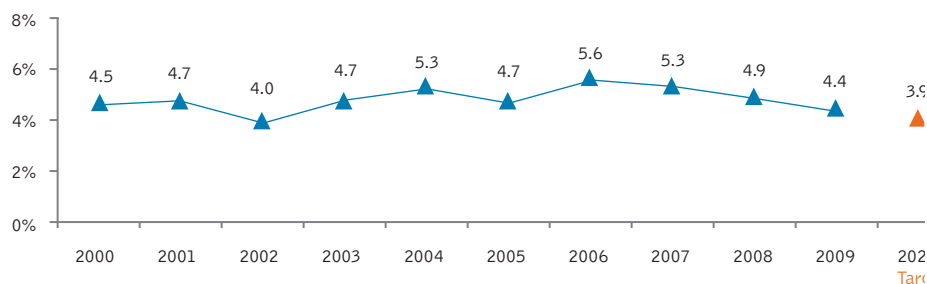
ImmPact2, the State's web-based immunization registry, to record and track the vaccination status of children. These activities also require strong partnerships with health care providers, professional organizations, advocates and community-based advisory boards.

HM2020 Objectives

1. Increase the percent of persons with Chronic Hepatitis C infection that know their serostatus

Hepatitis C virus (HCV) infection is the most common chronic bloodborne infection in the United States with an estimated 3.2 million persons infected. HCV is most often transmitted through the sharing of needles in the use of injection drugs accounting for 60% of HCV transmission in the U.S. To a lesser extent transmission occurs through exposures in health-care settings as a result of a breach in infection control practices. Sexual transmission of HCV is possible but rare. Blood transfusion, which accounted for a substantial proportion of HCV infections acquired greater than 10 years ago, rarely accounts for recently acquired infections, with no cases detected through the U.S. CDC's sentinel counties viral hepatitis surveillance system since 1994. There is no vaccine for hepatitis C and many people who have hepatitis C infection are unaware of how they contracted it. Without testing for infection and knowledge of serostatus, many chronically infected persons are unaware of

Percentage of People with Hepatitis C Who Know Their Sero-status, Maine 2001-2010



Data source: numerator: Maine CDC Notifiable Electronic Disease Surveillance System;
denominator: derived from National Health and Nutrition Examination Survey

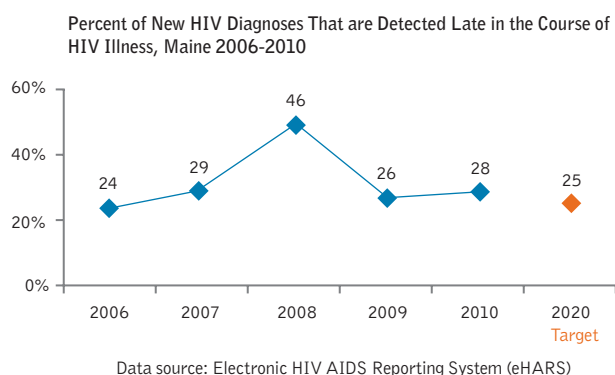
their infection until symptoms of advanced liver disease appear. This lack of awareness means chronically infected persons are missing critical opportunities to access care and treatment which can help to eliminate the virus and reduce damage to the liver. HCV is one of the leading causes for liver transplants in the United States.

During 2001-2010 an average of approximately 1,250 cases of chronic HCV infection were reported to the Maine CDC each year, with over 16,000 reports made to Maine CDC since chronic hepatitis C reporting began in 1997. These reported cases are an underestimate of the true burden of disease in the state due to unrecognized infections and underreporting of diagnosed HCV infections. By applying national prevalence estimates to the Maine population, it can be roughly estimated that approximately 21,000-26,000 Mainers are living with chronic HCV infection.

2. Reduce the percent of new HIV diagnoses that are detected late in the course of HIV illness

Human immunodeficiency virus (HIV) is the virus that can lead to acquired immune deficiency syndrome, or AIDS. Persons living with HIV may appear and feel healthy for several years. Many persons with HIV, including those who feel healthy, can benefit greatly from current medications used to treat HIV infection. These medications can limit or slow down the destruction of the immune system, improve the health of persons living with HIV, and may reduce their ability to transmit HIV. AIDS is the late stage of HIV infection, when a person's immune system is severely damaged and has difficulty fighting diseases and certain cancers. The U.S. CDC recommends that everyone between the ages of 13 and 64 years should be tested for HIV at least once. Individuals at increased risk for HIV should be tested for HIV at least once a year.

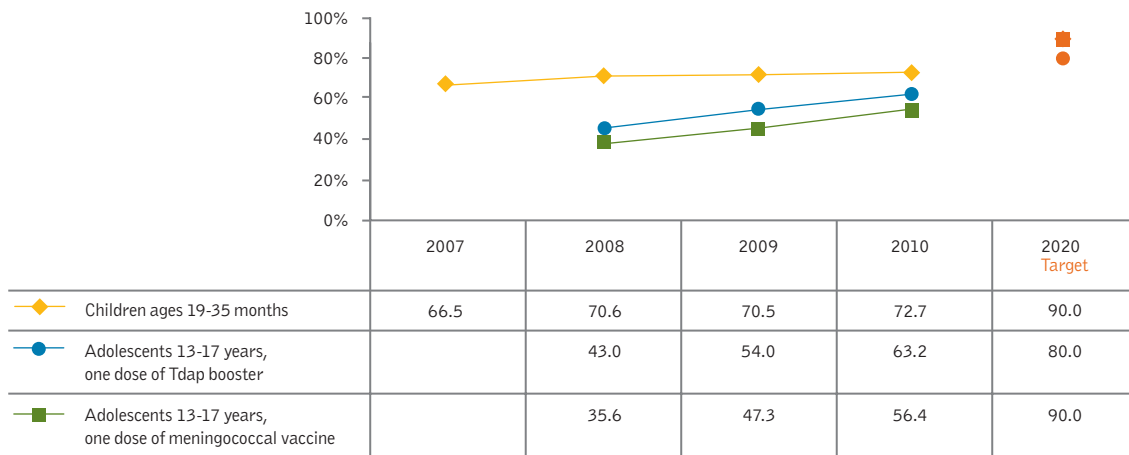
In 2007 the percent of persons who received a late HIV diagnosis reported in the US was 32%. In Maine, the percent of persons with late HIV diagnosis peaked in 2008 at 46 percent. In other years roughly 25-30% of reported HIV cases received a late diagnosis. The Healthy Maine 2020 goal is to decrease the percent of late diagnoses among HIV positive persons in Maine by 10%.



3. Increase routine vaccination coverage levels for children and adolescents

Immunization is an effective measure for preventing many diseases of childhood. Unvaccinated children and adolescents are susceptible to diseases which are accompanied by severe illness, complications, and death. In the pre-vaccine era many children died from diseases such as whooping cough, measles, and polio. Immunizing individuals helps to prevent disease and protect the health of our community, especially those people who cannot be vaccinated. People who are not immunized include those who are too young to be vaccinated (e.g., children less than a year old cannot receive the measles vaccine but can be infected by the measles virus), those who cannot be vaccinated for medical reasons (e.g., children with allergies to the vaccine), and those who cannot make an adequate response to vaccination (persons with weakened immune systems due to other disease processes).

Percent of Children Routinely Vaccinated, by Vaccination Type and Age Group, Maine 2007-2010



Data Source: National Immunization Survey and National Immunization Survey – Teen.

Increasing the immunization coverage of children and adolescents would effectively reduce the burden of vaccine preventable diseases in Maine. High vaccination coverage in the population prevents disease outbreaks and slows down transmission when outbreaks do occur.

Maine coverage rates for childhood vaccinations have been increasing, but the national rates have increased faster than those of Maine. The trends for adolescents are similar. Maine's coverage of the adolescent population, ages 13 to 17 years, with one dose of Tdap and one dose of meningococcal vaccine has been increasing in the past few years.

3a. Increase routine vaccination coverage levels for children ages 19 to 35 months.

Current immunizations recommendations include the following doses of vaccines for children by the time they are three years of age: four doses of diphtheria, tetanus and pertussis (DTaP); three doses of Polio; one dose of Measles, Mumps and Rubella (MMR); three doses of Haemophilus influenza b (Hib); three doses of Hepatitis B; one dose of Varicella; and four doses of Pneumococcal conjugate (PCV7).

In Maine routine vaccination* coverage levels for children ages 19 to 35 months have increased modestly from 2008-2010, from 70.6 to 72.2 percent. The HM2020 objective is to increase this coverage to 90 percent.

* For 2008-2010 the 4:3:1:0:3:1:4 series is used.

A shortage of Hib vaccine in 2008 resulted in a change in the US CDC measure to avoid artificially low rates in some states, including Maine. It is anticipated that after a few more years, Maine will return to measuring completion of the 4:3:1:3:3:1:4 series

3b. Increase routine Tdap vaccination coverage levels for adolescents ages 13 to 17 years

The adolescent vaccination schedule consists of both new vaccinations recommended specifically during adolescence and vaccinations recommended during early childhood that might have been missed. Optimally, adolescent vaccines should be delivered during the age 11-12 year health care visit. Vaccinations not received at that time should be administered at the earliest opportunity. Maintaining coverage in this population is challenging because adolescents make few preventive health-care visits and might not visit

their primary care provider routinely.¹² Each health-care encounter becomes an opportunity to review vaccination records and administer recommended vaccinations.

Recommendations for teens include a booster shot that protects against tetanus, diphtheria and pertussis (Tdap) starting in the pre-teens at age 11 or 12. Older teens who have not had the Tdap booster should also receive this vaccine. In Maine the rates of coverage for Tdap vaccine in this age group have increased from 2008-2010 from 43 to 63.2 percent.

3c. Increase routine meningococcal vaccination coverage levels for adolescents ages 13 to 17 years.

Meningococcal vaccine protects against four types of meningococcal disease, including two of the three types most common in the United States. Meningococcal meningitis a form of bacterial meningitis, a severe illness affecting the lining of the brain and spinal cord, characterized by a

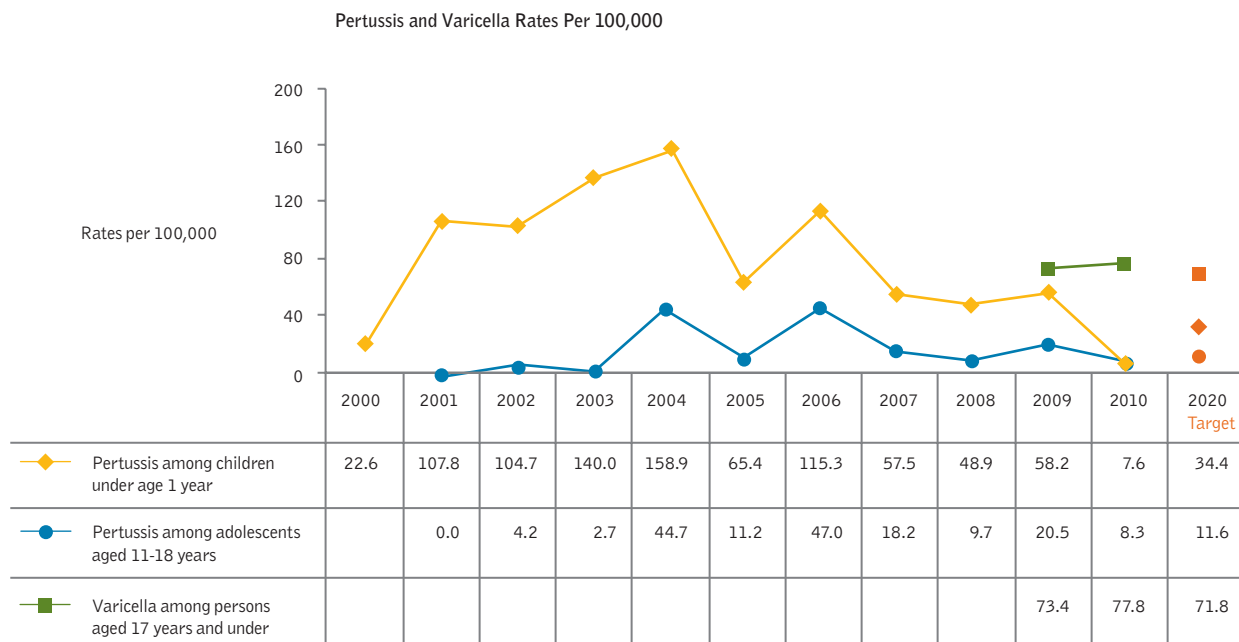
sudden onset of fever, headache, and stiff neck. Teenagers and young adults 16 through 21 years old are at increased risk of getting meningococcal disease. Persons in dormitory settings such as college students are also at increased risk of meningococcal disease. Meningococcal conjugate vaccine is routinely recommended for all persons 11 through 18 year olds. In Maine the rates of coverage for meningococcal vaccine in this age group have increased from 2008-2010 from 35.6 to 56.4 percent.

4. Reduce, eliminate, or maintain elimination of cases of vaccine-preventable diseases (focus on Pertussis and Varicella)

4a. Reduce pertussis among children under age 1 year

4b. Reduce pertussis among adolescents aged 11-18 years

Pertussis (whooping cough) is a bacterial infection of the respiratory tract caused by *Bordetella pertussis*. Symptoms include an irritating cough



National Electronic Disease Surveillance System (NEDSS)

lasting at least 2 weeks with paroxysmal cough, whoop, and vomiting after coughing spasms. Pertussis can cause serious and sometimes life-threatening complications in infants and young children, especially those who are not fully vaccinated. More than half of infants younger than 1 year of age who are infected with pertussis must be hospitalized.

The best way to prevent pertussis among infants, children, teens, and adults is to get vaccinated. In the United States, the recommended pertussis vaccine for infants and children is called DTaP. This is a combination vaccine that protects against three diseases: diphtheria, tetanus and pertussis. For maximum protection against pertussis, children need five DTaP shots, given at 2, 4, and 6 months of age, between 15-18 months of age and between 4-6 years of age, before the child enters school. A booster shot that protects against tetanus, diphtheria and pertussis (Tdap) is available for pre-teens at age 11 or 12. Teens and adults (including pregnant women preferably after 20 weeks gestation) who have not had the Tdap vaccine should also receive a booster. High pertussis vaccination rates are associated with lower numbers of pertussis cases in the community.¹³

In 2011, the Maine CDC identified an increase in the pertussis rate when compared to 2010. The cases ranged in age from 1 month to 79 years.¹⁴ Clusters of pertussis cases occurred in schools, camps, sport teams and workplaces. The adolescent age group consistently represents more than a quarter of all Maine's cases.

4c. Reduce varicella among persons aged 17 years of age and under

Varicella (chickenpox) is a highly contagious viral disease of which humans are the only source of infection. It causes a blister-like rash, itching, tiredness, and fever. Varicella spreads easily from

infected people to others who have never had chickenpox and never received the chickenpox vaccine. Chickenpox can be serious, especially in babies, adults, and people with weakened immune systems. Adolescents and adults are more at risk for severe disease which could include pneumonia, bacterial infection of the skin and swelling of the brain. Vaccination is the best way to prevent chickenpox and results in less severe illness and less absenteeism in school children.

In Maine, varicella cases are primarily reported from schools. Historically varicella reporting has been aggregate in nature and case-based reporting that includes the age of the individual has become available over the past two years. Improvements in case-based varicella reporting will be implemented in 2012. Establishing accurate estimates for cases of varicella is challenging because it is diagnosed clinically (by providers based on signs and symptoms) and is not confirmed and reported by laboratories. In 2010 there were 247 cases of varicella reported to Maine CDC, for a rate of 77.8 cases per 100,000 children ages 0-17.¹⁴

As with pertussis, the best way to prevent varicella is to get the varicella vaccine. All healthy children 12 months through 12 years of age should have two doses of chickenpox vaccine, administered at least three months apart. Children who have evidence of immunity to varicella do not need the vaccine. People 13 years of age and older who do not have evidence of immunity should get two doses of the vaccine four to eight weeks apart. In Maine, vaccination with one dose of varicella vaccine has been a mandatory requirement for school entry since 2003.

5. Reduce invasive healthcare-associated methicillin-resistant *Staphylococcus aureus* (MRSA) infections

Methicillin-resistant *Staphylococcus aureus* (MRSA) is a type of staph bacteria that is

resistant to certain, more common antibiotics such as methicillin, penicillin, and amoxicillin. In the community, most MRSA infections are skin infections. More severe or potentially life-threatening invasive MRSA infections occur most frequently among patients in healthcare settings. Invasive MRSA infection occurs when the bacteria infects a normally sterile site (such as blood or cerebral spinal fluid). Persons with weakened immune systems, the elderly, and those with invasive medical devices are at increased risk of invasive MRSA infections.¹⁵ A MRSA bloodstream infection has a mortality rate that is twice that of a methicillin sensitive *Staphylococcus aureus* (MSSA) bacteremia.

In 2010, encouraging results from a U.S. CDC study showed that invasive (life-threatening) MRSA infections in healthcare settings are declining, demonstrating that these rates can be impacted by prevention programs. Invasive MRSA infections reported from hospitals declined 28% from 2005 through 2008. Data from the National Healthcare Safety Network (NHSN) showed a decrease of nearly 50% from 1997 to 2007 in MRSA bloodstream infections occurring in hospitalized patients.

The Maine CDC HAI program works closely with an advisory group, the Maine Infection Prevention Collaborative, to develop strategies to decrease MRSA infections and to measure the rates and cases of MRSA occurring in Maine's hospitals. In order to measure the progress made, it is necessary that all hospitals report healthcare associated infections using uniform definitions through the National Healthcare Safety Network (NHSN). In

the spring of 2011, the Maine Legislature passed a bill which required hospitals to report healthcare associated infections of Methicillin Resistant *Staphylococcus aureus* (HAI-MRSA) using the NHSN surveillance system. Data entry for this measure began in January 2011 and as of October, 2011, Maine CDC is able to review HAI-MRSA data from Maine hospitals. Understanding the burden of invasive MRSA infections in the state is essential for developing and implementing effective prevention programs.¹⁵ This process requires that the data submitted be validated before public dissemination. Validation methods are still under development, and therefore the data is not yet available.

Methodology:

1. (Developmental) Increase the percent of persons with Chronic Hepatitis C infection that know their serostatus

Measure: Percent of persons with Chronic Hepatitis C infection reported to Maine CDC of those estimated to have Chronic Hepatitis C infection in Maine.

Numerator: Number of Chronic Hepatitis C cases reported yearly to Maine CDC.

Denominator: Estimated Number of Persons with Chronic Hepatitis C in Maine.

Target setting method: 10% decrease from 2010, maintaining current decreases.

Other notes: the denominator of this objectives is derived by creating a state-based estimate from a national estimate of percent of persons with Chronic Hepatitis C infection, from the CDC National Health and Nutrition Examination Survey (NHANES), using the upper range of this estimate.

2. (Developmental) Reduce the percent of new HIV diagnoses that are detected late in the course of HIV illness.

Measure: Percent of newly reported cases with late HIV diagnosis

Numerator: Number of newly reported cases with CD4 cell count below 200 cells/mm³ within one year of initial HIV positive status reported to MeCDC

Denominator: Number of new cases of HIV reported to MeCDC per year

Target setting method: 10% decrease from 2010.

Other notes: Data currently available for 2006-2010.

3. Increase routine vaccination coverage levels for children and adolescents

SUB-OBJECTIVES:

3a. Increase routine vaccination coverage levels for children ages 19-35 months.

Measure: Percentage of children ages 19-35 months vaccinated according to the US CDC recommendations.

Numerator and Denominator: calculated by the U.S. CDC, National Immunization Survey.

Target setting method: 90% coverage (HP2020 target).

Other notes: The vaccinations reported before 2008 are the 4:3:1:3:3:1:4 series but for 2008-2010 the 4:3:1:0:3:1:4 series is used. A shortage in Hib vaccine in 2008 resulted in a change in the US CDC measure to avoid artificially low rates in some states, including Maine. It is anticipated that after a few more years, Maine will return to measuring completion of the 4:3:1:3:3:1:4 series. The series 4:3:1:3:3:1:4 indicates that each child has had these vaccines: 4 doses of DTaP, 3 doses of Polio, 1 dose of Measles, Mumps and Rubella, 3 doses of Hib, 3 doses of Hepatitis B, 1 dose of Varicella, and 4 doses of Pneumococcal conjugate (PCV7). For 2008-2010, the 4:3:1:0:3:1:4 series, including the same vaccinations except for no doses of Hib are included.

3b. Increase routine Tdap vaccination coverage levels for adolescents ages 13 to 17 years

Measure: Percentage of adolescents ages 13-17 years vaccinated with one dose of Tdap booster.

Numerator and Denominator: calculated by the U.S. CDC, National Immunization Survey.

Target setting method: 80% coverage (HP2020 target).

3c. Increase routine meningococcal vaccination coverage levels for adolescents ages 13 to 17 years.

Measure: Percentage of adolescents ages 13-17 years one dose of meningococcal conjugate vaccine.

Numerator and Denominator: calculated by the U.S. CDC, National Immunization Survey.

Target setting method: 90% coverage (HP2020 target).

4. Reduce, eliminate, or maintain elimination of cases of vaccine-preventable diseases (focus on per-tussis and varicella)

SUB-OBJECTIVES:

4a. Reduce pertussis among children under age 1 year

Measure: Annual rate of confirmed + probable cases, including outbreak settings, reported among children under age 1 year.

Numerator: Count of all confirmed and probable cases of pertussis among children under age 1 year.

Denominator: Age specific population estimates from the US Census.

Target setting method: 10% decrease

Other notes: NEDSS data are available for pertussis cases since 2001.

4b. Reduce pertussis among adolescents aged 11-18 years

Measure: Annual rate of confirmed + probable cases, including outbreak settings, reported among adolescents aged 11-18 years.

Numerator: Count of all confirmed and probable cases of pertussis among adolescents aged 11-18 years.

Denominator: Age specific population estimates from the US Census.

Target setting method: 10% decrease

Other notes: NEDSS data are available for pertussis cases since 2001.

4c. Reduce varicella among persons aged 17 years of age and under

Measure: Annual rate of varicella cases reported among persons aged 17 years and under

Numerator: Count of persons aged 17 years and under reported to have had varicella in the past year

Denominator: Age specific population estimates from the US Census

Target setting method: 5% decrease

Other notes: Summary varicella aggregate reports were used for 2007-2010.

5. (Developmental) Reduce invasive healthcare-associated methicillin-resistant *Staphylococcus aureus* (MRSA) infections

Measure: Hospital-associated MRSA infections per 1000 patient days

Numerator: Number of MRSA-HAI in the hospital

Denominator: Number of patient days

Data Source: National Healthcare Safety Network (NHSN)

Target setting method: To be determined when data are available.

Other notes: Reporting of healthcare-associated MRSA infections has been mandated by the State and data will be analyzed when validated.

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Injury and Violence

Background:

Injury and violence are pervasive problems that many Mainers have encountered at some point in their lives. Sexual and domestic violence are widespread crimes that hurt individuals, families and entire communities. Bullying among students occurs on school campuses, in the community and via electronic means, often leading to physical violence as well as suicidal behaviors.

Health Equity Highlight: GLBT Populations

Gay/lesbian/bisexual sexual orientation is associated with increased risk of suicidal behavior and bullying.^{1, 2} On the 2009 Maine Integrated Youth Health Survey (MIYHS), among self-identified lesbian, gay, and bisexual (LGB) youth:³

- One in four (27.8%) attempted suicide within the previous 12 months, more than 3 times the percentage reported by heterosexual youth.
- One in five (19.8%) did not go to school at least once in the past month because they felt unsafe, almost 5 times the percentage of heterosexual youth.
- 40.2% experienced cyber-bullying and 45% had been bullied at school during the past year, over twice the percentage of heterosexual youth.

National studies show that transgendered individuals are also at higher risk for suicide, but no data for Maine are available.⁴

Unintentional and intentional injuries and their consequences are significant causes of morbidity and are responsible for hundreds of millions in health care costs each year in Maine.⁵ Many injury deaths occur in childhood, adolescence and young adulthood, making injury a leading cause of lost years of productive life in Maine and in the nation as a whole.⁶ The physical, emotional and financial impact from injuries can be significant and lifelong.⁶ Injury and violence prevention efforts are intended to save lives, reduce disabilities, and minimize health care costs.⁶

Maine has the 2nd highest rate of injury deaths among the New England states.⁷

Unintentional injury is the leading cause of death for Mainers aged 1-44 years and the 5th leading cause of death across the lifespan.⁷ The leading causes of injury death for Maine residents are: suicide, motor vehicle traffic injuries, unintentional poisoning and unintentional falls.⁸

The Public Health Response

Injury and violence are preventable. Steady advances in injury and violence prevention science and improvements in data collection have helped inform evidence-based interventions. Many of these are available for dissemination in Maine, although some require further testing for applicability in rural areas. The core elements of injury/violence prevention mirror that of essential public health services with a focus on primary prevention in a population-based approach. Decisions and prevention activities are based on data collection and analyses that identify and track over time the leading causes of mortality and morbidity, risk and protective factors, and high risk groups. Best practice interventions, including education, policy development, and training can then lead to reduced rates of mortality and morbidity. Evaluation of the impact of these activities ensures that effective strategies are continued.

To achieve a reduced burden of injury and violence in Maine it is crucial to implement effective policies that address the incidence of injury prevention and enhance collaborations among key systems including public health, health care, education, law enforcement, mental health, social services, substance abuse, recreation, economic development, business, and the general public.

While many gains in injury and violence prevention have been achieved and many lives saved, there remains a unique attitude of acceptance about injury and violence when compared to other leading causes of death. Injury and violence incidents are often not viewed as preventable, when, in fact, they are.

HM2020 Objectives

1. Reduce the suicide rate

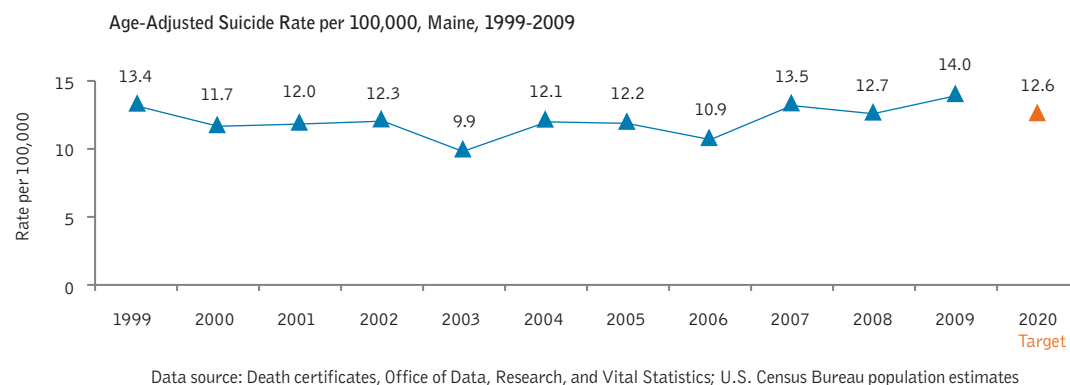
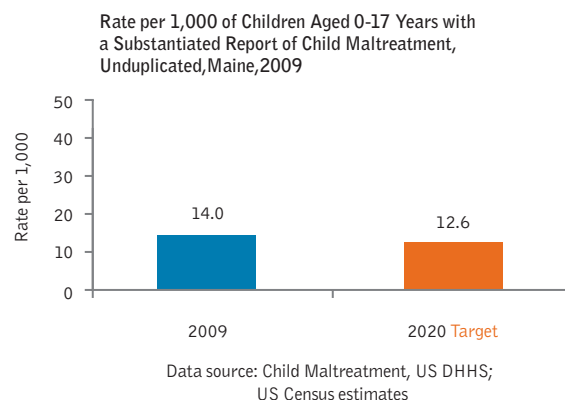
In Maine, suicide occurs seven times more often than homicide, with an average of one suicide every two days.⁵ Suicide is the second leading cause of death among 15-34 year-old Mainers and the tenth leading cause among all ages combined.⁷ The suicide rate in Maine did not change significantly between 1999 and 2009. It has consistently been similar to the U.S. rate and higher than the rate in the Northeast.⁹ In 2009 there were 14 suicides per 100,000 Maine residents.

Despite the challenges, evidence-based programs developed in Maine and across the nation demonstrate that it is possible to reduce suicidal behaviors through education, early intervention and treatment.¹⁰ The Healthy Maine goal is to reduce the suicide rate to 12.6 suicides per 100,000 Maine residents by 2020.

Suicidal behavior is a much larger public health problem than what is represented by death statistics alone. It is estimated that, for every completed suicide, there are from 25 to 100 non-fatal youth suicide attempts.¹⁰ The impact of suicide is devastating to surviving family, friends, and entire communities.

2. Reduce nonfatal child maltreatment

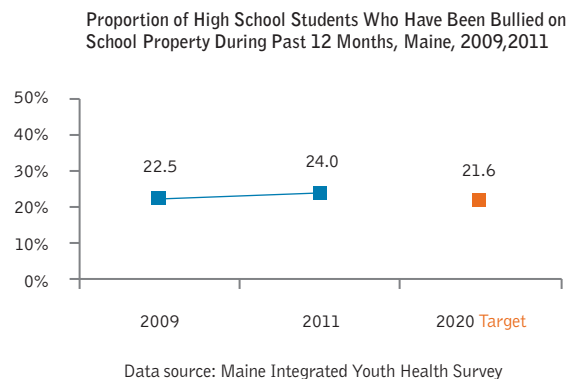
Child maltreatment can result in long-term physical, psychological, and behavioral problems including sleep disturbance, cognitive impairment, obesity, depression, attention problems, teen pregnancy, alcoholism, and criminal behavior.¹¹



In 2009, Maine had a rate of 14 cases of child maltreatment per 1,000 children; the Healthy Maine 2020 goal is 12.6 cases per 1,000. Data for this measure is not available before 2009, but other measures for child maltreatment indicated that it has increased in Maine over the past five years and is higher than national rates.¹²

3. Reduce bullying among adolescents

Youth who are bullied are at increased risk for problems such as anxiety, depression, headaches, and poor school adjustment. Youth who bully others are at increased risk for academic problems, substance use, and violence later in life.¹³ In 2011, 24.0% of Maine high school students had been bullied on school property in the past 12 months.

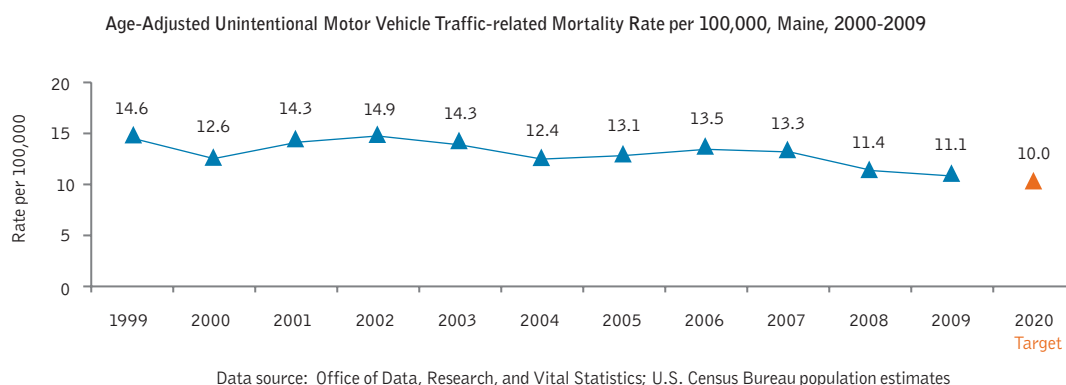


Bullying among students is also a significant issue beyond school campuses, both in the community and via electronic means. In 2009, one in five Maine high school students reported having been “cyber-bullied” (harassed via e-mail, chat room, or other electronic media) in the last 12 months.¹⁴ Among those who had been cyber-bullied, 55% reported being bullied at school, whereas 45% of non-cyber-bullied students reported being bullied at school. Students who were cyber-bullied were twice as likely to report suicidal thoughts.¹⁴ The Healthy Maine goal is to reduce bullying on school property to 21.6% by 2020.

4. Reduce motor vehicle crash related deaths

Unintentional motor vehicle traffic crashes were the leading cause of death among 5-24 year-olds in Maine between 2003 and 2007. The lifetime medical and work-loss costs associated with all motor vehicle traffic deaths that occurred in Maine in 2005 alone were estimated to be nearly \$154 million (in 2005 dollars).⁷

The unintentional motor vehicle traffic mortality rate in Maine declined slowly beginning in 2002, though the decline was not statistically significant. In 2009 unintentional motor vehicle traffic crashes resulted in 11.1 deaths per 100,000 people; the Healthy Maine goal is to reduce the mortality rate 10% (to 10 deaths per 100,000 people) by 2020.



5. Reduce sexual and domestic violence

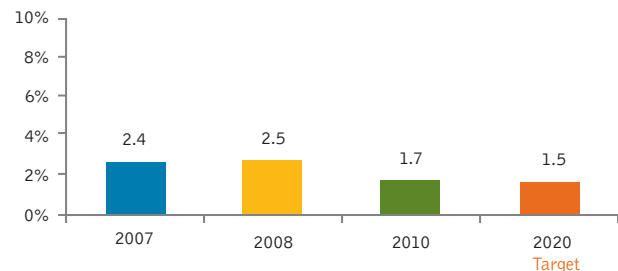
Sexual and domestic violence are public health issues that can be prevented through changes in policies, environment and cultural norms, education, early intervention, and support for survivors. Because many women do not feel safe or comfortable reporting these crimes to public safety officers, Intimate Partner Violence (IPV) and sexual violence statistics may be under-reported. To combat this problem, population-wide data has been collected on the Behavioral Risk Factor Surveillance System (BRFSS). However, as of 2010, IPV and sexual violence survey questions are still relatively new and trend data are not yet available.

5a. Reduce violence by current or former intimate partners

Domestic violence continues to be both a criminal and public health issue with over 5,000 cases of domestic assault reported in Maine annually.¹⁵ IPV includes emotional abuse, threats, physical violence and/or sexual violence. The harmful effects can be physical, emotional, or behavioral; examples include cuts and scratches, broken bones, head trauma, flashbacks, panic attacks, low self-esteem, difficulty trusting others, and having risky sex.¹⁶

In 2010, 1.7% of adults had experienced physical violence or unwanted sex with a current or former partner in the past 12 months; the Healthy Maine

Percent of Adults Aged 18 and Over Who Experienced Physical Violence or Unwanted Sex with a Current or Former Intimate Partner in the Past 12 Months, Maine 2007, 2008, 2010



Data source: Maine BRFSS

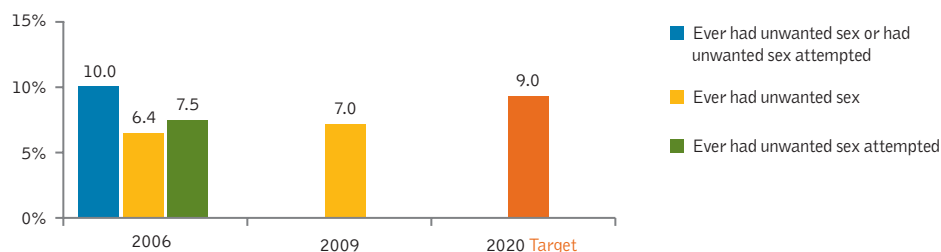
2020 goal is 1.5%.

5b. Reduce rape or attempted rape

Victims of sexual violence, and their families and communities, can experience both immediate and long term physical, psychological, social, and health behavior problems. Examples include chronic pelvic pain, anxiety, withdrawal, attempted or completed suicide, strained relationships, drug use, and overeating.¹⁷

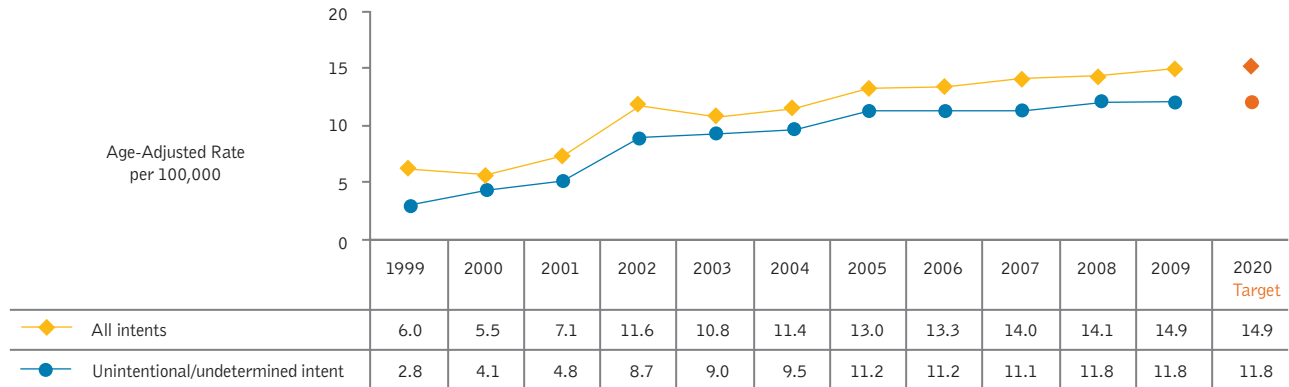
The Maine BRFSS questions for rape have not consistently been included in the past, and only selected years can be presented. Previously, 2006 provided the most inclusive data and in that year, 10% of Maine women reported ever experiencing rape or attempted rape. The Healthy Maine goal is to reduce that to 9% by 2020.

Percent of Women Who Report Ever Having Unwanted Sex, or Attempted Unwanted Sex, Maine, 2006 and 2009



Data source: Maine BRFSS

Age-Adjusted Poisoning Mortality Rate per 100,000 By Intent, Maine 1999-2009



Data source: Death certificates, Office of Data, Research, and Vital Statistics; U.S. Census Bureau population estimates

6. Prevent an increase in the rate of poisoning deaths

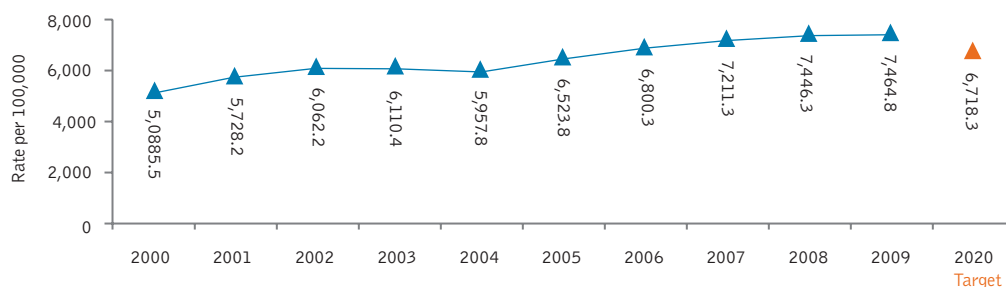
Almost one of every four injury deaths in Maine in 2004-2008 was due to poisoning (intentional and unintentional).¹⁷ The lifetime combined medical and work loss costs from poisoning deaths in Maine in 2005 alone were estimated to be nearly \$162 million (in 2005 dollars). The poisoning death rate increased nearly 2½-fold between 1999 and 2009. This increase was driven by unintentional poisonings. Unintentional poisoning was the third leading cause of injury deaths in Maine between 2004 and 2008.¹⁸ The unintentional and undetermined intent poisoning death rate increased four-fold between 1999 and 2009. The Healthy Maine goal is to maintain the baseline rate of poisonings through 2020.

7. Reduce emergency department visits from unintentional falls

One of every three U.S. adults aged 65 or older falls each year. Injuries caused by falls such as head trauma and hip fractures can decrease an older person's ability to live independently and increase their risk of early death.¹⁹

In Maine the 2009 unintentional fall-related emergency department visit rate (7,465 per 100,000) was nearly 1½ times higher than the 2000 rate (5,089 per 100,000). The Healthy Maine goal is to reduce the unintentional fall-related emergency department visit rate to 6,718.3 per 100,000 adults aged 65 years or more.

Unintentional Fall-related Emergency Department Visit Rate Among 65+ Year Olds, Maine, 2000-2009



Data source: Hospital outpatient; Hospital inpatient; U.S. Census Bureau population estimates

Methodology notes

1. Reduce the suicide rate

Measure: Age-adjusted suicide rate, per 100,000.

Numerator: Number of deaths of Maine residents for which the underlying cause of death ICD-10 code is U03, X60-X84, or Y87.0

Denominator: Number of Maine residents.

Target setting method: 10 percent improvement.

Other notes: Rates per 100,000, age adjusted using the 2000 census population counts.

2. Reduce nonfatal child maltreatment

Measure: Rate per 1,000 of children aged 0-17 years with a substantiated report of child maltreatment in the past year.

Numerator: Number of unduplicated Maine children aged 0-17 years with a substantiated report of child abuse or neglect.

Denominator: Number of children in Maine aged 0-17.

Target setting method: 10 percent improvement.

Other notes: 2009 was the first year that data on substantiated reports on unduplicated children were presented in the national Child Maltreatment Reports (U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau).

3. Reduce bullying among adolescents

Measure: Percent of high school students who have been bullied on school property during past 12 months.

Numerator: Number of respondents who answer yes to "During the past 12 months, have you ever been bullied on school property?"

Denominator: Number of respondents who answer yes or no to this question.

Target setting method: 10 percent improvement.

Other notes: Data are statistically weighted to be more representative of the general student population of Maine and to adjust for non-response. 2009 data are weighted using the original methods.

4. Reduce motor vehicle crash related deaths

Measure: Age-adjusted unintentional motor vehicle traffic related mortality rate, per 100,000.

Numerator: Number of deaths of Maine residents for which the underlying cause of death ICD-10 code is V02-V04 (.1, .9), V09.2, V12-V14 (.3-.9), V19 (.4-.6), V20-V28 (.3-.9), V29-V79 (.4-.9), V80 (.3-.5), V81.1, V82.1, V83-V86 (.0-.3), V87 (.0-.8), or V89.2

Denominator: Number of Maine residents.

Target setting method: 10 percent improvement.

Other notes: Age-adjusted to the 2000 U.S. Census Bureau population estimates.

5. Reduce sexual and domestic violence

SUB-OBJECTIVES:

5a. Reduce violence by current or former intimate partners.

Measure: Percent of 18+ year olds who experienced physical violence or unwanted sex with a current or former intimate partner in the past 12 months.

Numerator: Number of respondents who answered yes to "In the past 12 months have you been frightened for the safety of yourself, your family or friends or because of the anger or threats of an intimate partner?" Or answered yes to "during the last 12 months have you experienced physical violence or had unwanted sex with a current or former intimate partner?"

Denominator: Number of respondents who answered these questions.

Other notes: BRFSS prevalence rates are statistically weighted to be more representative of the general adult population of Maine and to adjust for non-response. 2008 numerator is <50.

5b. Reduce rape or attempted rape.

Measure: Percent of women who report ever having unwanted sex, or attempted unwanted sex

Numerator: Number of respondents who answered yes to “has anyone ever had sex with you after you said or showed that you didn’t want them to?” and/or number of respondents who answered yes to “has anyone ever attempted to have sex with you after you said or showed that you didn’t want to, but sex did not occur?” Healthy People 2020 includes four intimate partner violence developmental objectives (physical violence, sexual violence, psychological abuse, and stalking), with data to be obtained from the National Intimate Partner and Sexual Violence Survey. These data were not available at the time this report was produced.

Denominator: Number of respondents who answered these questions.

Other notes: 2010 question wording differs slightly “Has anyone ever had sex with you after you said or showed that you didn’t want them to or without your consent?” BRFSS prevalence rates are statistically weighted to be more representative of the general adult population of Maine and to adjust for non-response. Healthy People 2020 includes this measure as a developmental objective, with data to be obtained from the National Intimate Partner and Sexual Violence Survey, which was unavailable at the time this report was produced.

Target setting method: 10 percent improvement.

6. Prevent an increase in the rate of poisoning deaths

SUB-OBJECTIVES:

6a. All intents

Measure: Age-adjusted poisoning mortality rate, per 100,000.

Numerator: Number of deaths of Maine residents for which the underlying cause of death ICD-10 code is U01.6-U01.7, X40-X49, X60-X69, X85-X90, Y10-Y19, or Y35.2.

Denominator: Number of Maine residents.

6b. Unintentional or undetermined intent among all persons.

Measure: Age-adjusted unintentional or undetermined poisoning mortality rate, per 100,000.

Numerator: Number of deaths of Maine residents for which the underlying cause of death ICD-10 code is X40-X49 or Y10-Y19.

Denominator: Number of Maine residents.

Target Setting method: Using the HP2020 target.

Other Notes: Unintentional or undetermined intent is a HP2020 sub-objective, and is included, since unintentional poisoning deaths are where the increase is happening.

7. Reduce hospitalizations from unintentional falls

Measure: Unintentional fall-related emergency department visit rate among 65+ year olds, per 100,000

Numerator: Number of inpatient or outpatient dataset records with 450-459 revenue code and E880.0-E886.9 or E888 listed in one or more diagnosis/E-code fields and age at admission \geq 65 years

Denominator: Number of 65+ year old Maine residents

Target setting method: 10 percent improvement

Other notes: crude rates per 100,000. Includes both inpatient and outpatient dataset records with 450-459 revenue code and E880.0-E886.9 or E888 listed in one or more diagnosis/E-code fields. Healthy People 2020 uses data from the National Hospital Ambulatory Medical Care Survey to measure this objective at the national level. State-level data are not available from that survey, so Maine data will be taken instead from Maine hospital datasets.

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Mental Health

Background

A person's ability to carry on productive activities and live a rewarding life is affected not only by physical health but by mental health. In addition, mental well-being can affect physical well-being in many ways,¹ yet many people still find that treatment is difficult to access.

Mental health is a broad and complex issue with many facets to consider. A wide range of symptoms and conditions can lead to disruptions in mental well-being, and consequently to self-care and social abilities. Some of these conditions are severe enough to be considered "illnesses," consisting of clusters of symptoms. These are the conditions most often cited in reference to mental health. However, the most common mental health disruptions are milder and may fall short of a diagnosable condition, though they still impact daily functioning for many.²

Health Equity Highlight: Women

A person's gender can impact the presentation and prevalence of mental illness due to differences in environmental, social, hormonal and physiological factors.

- Women are more likely than men to report experiencing days when their mental health was not good (2.7 versus 4.1 mentally unhealthy days in the past 30 days.)³
- Women are at a greater risk for experiencing depression and anxiety than men regardless of age. More than 1 in 4 women have ever been diagnosed with depression and 1 in 5 have been diagnosed with an anxiety disorder.³
- Women are more than twice as likely as men to have an unmet need for mental health treatment or counseling.³

Reports issued by DHHS show that:

- 12.1% of persons 18 and older reported severe psychological distress in the past year in 2006, with 8.8% reporting at least one major episode of depression.⁴
- Among 18-25 year olds, about 1 in 5 people reported severe psychological distress in the past year.⁴
- 1 in 8 new mothers in Maine is diagnosed with depression.⁵
- 7.2% of children ages 0-17 have emotional, developmental, or behavioral problems for which they need treatment or counseling.⁶

The Public Health Response:

While state mental health services have often been focused on children and the severely and persistently mentally ill, there is a growing recognition that there is need for interventions for a wider range of mental health needs. Data on mental health among Maine citizens is regularly collected on several public health surveys, including the Maine Integrated Youth Health Survey, the Pregnancy Risk Assessment Monitoring System, and the Behavioral Risk Factor Surveillance System.

Comprehensive, population-based approaches to promoting mental health continue to be primarily focused on early identification and linkages to care for those with mental health needs, while the prevention of mental illness lacks evidence-based practices. The current efforts have been hampered by the lack of communication and cooperation between the public health and mental health communities, despite the well-known cross connections between mental health and chronic disease, as well as the strong causal links with substance abuse. Maine has worked to address these needs by forging links between traditional medical providers and mental health practitioners, through pilot programs in federally qualified health centers

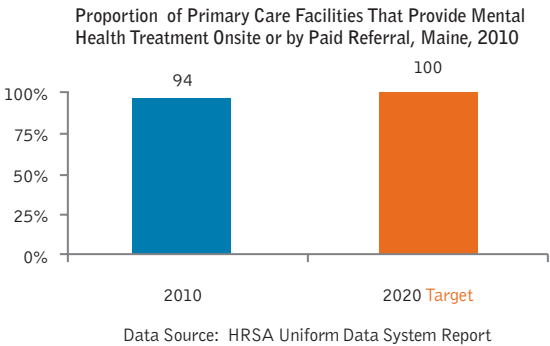
and through screening education programs for MCDC sub-grantees and other medical providers. These pilot projects, which have included the co-location of services and coordination of care, show promise.

Efforts to address mental health issues are also challenged by the underreporting and consequent under-treatment of these conditions, often due to the pervasive socio-cultural stigma attached to those who are diagnosed and treated for mental health issues. This stigma is part of the reason that persons with mental health issues often find themselves struggling to pay or find coverage for treatment, as health insurance plans often do not cover mental health-related issues as thoroughly as those traditionally seen as solely physical in nature.⁷ Policy approaches, including mental health parity laws for health insurance have made some progress.

HM2020 Objectives

1. Increase the proportion of primary care facilities that provide mental health treatment onsite or by paid referral

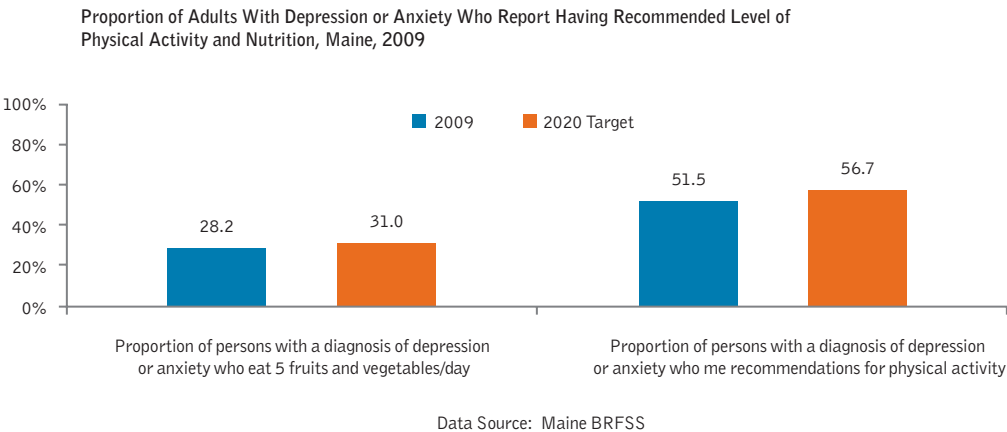
Evidence has shown that co-location of primary care and mental health services increases access and collaboration, resulting in better outcomes for both physical and mental health.⁸



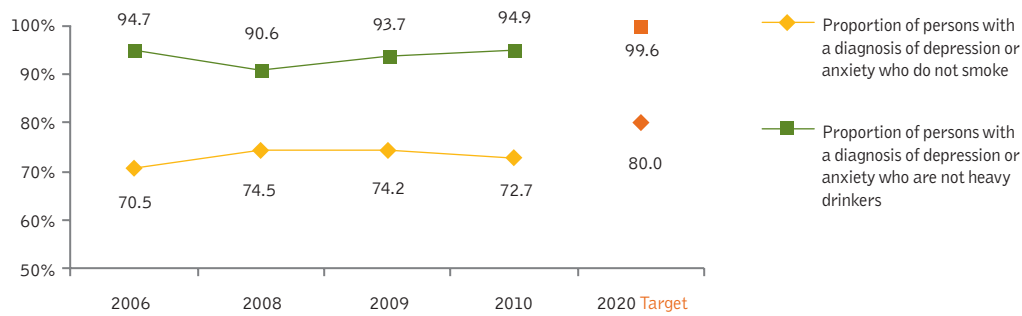
This small sample of primary care providers indicates that co-location of services is being implemented in 94% of facilities; the Healthy Maine 2020 goal is 100%. With funding from the Health Resources and Services Administration, grantees may be better able to create infrastructure to make co-location happen, although pilot projects also occur outside of these settings. This baseline data does not give us information regarding the degree of integration and collaboration.

2. Increase healthy behaviors of people with mental health issues

People with mental health issues report fewer healthy behaviors such as physical activity, good nutrition, no tobacco use and moderate or no alcohol use. These healthy behaviors can impact the incidence of other chronic diseases, as well as help to manage depression and other mental illnesses.¹



Proportion of Adults With Depression or Anxiety Diagnosis Who Do Not Drink Heavily or Smoke, Maine, 2006, 2008-2010



Data Source: Maine BRFSS

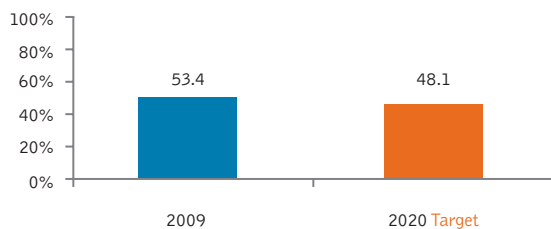
In 2009, only 29.2% of adults with depression or anxiety reported eating 5 or more fruits and vegetables a day; and 51.5% met recommendations for physical activity. The Healthy Maine 2020 goal is increase those numbers to 31% and 56.7%, respectively.

In 2010, 94.9% of adults diagnosed with depression or anxiety did not smoke and 72.7% were not heavy drinkers. The Health Maine 2020 goal is to increase those numbers to 99.6% and 80%, respectively.

3. Reduce co-morbidity for persons with mental illness

Those with mental illness are more likely to also have a range of other chronic diseases. Self-management of chronic disease can also be more challenging for those with a mental illness. Reducing co-morbidity can result in better quality of life as well as reduce early mortality for this population.⁹

Proportion of Persons With a Diagnosis of Anxiety or Depression Who Have at Least One Selected Chronic Disease (Diabetes, Asthma, Hypertension), Maine, 2009



Data Source: Maine BRFSS

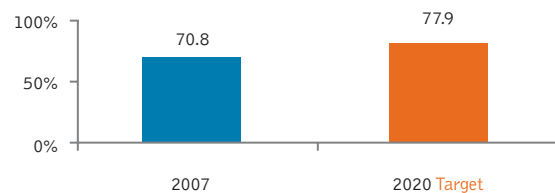
In 2009, approximately 53.4% of Mainers diagnosed with anxiety or depression had at least one chronic disease (diabetes, asthma, hypertension); the Healthy Maine goal is 48.1%.

4. Increase the proportion of children with mental health problems who receive treatment

Research has shown that half of all lifetime cases of mental illness develop before age 14.¹⁰ Untreated mental illness can lead to more severe symptoms that are difficult to treat and increases the risk for co-occurring mental illnesses.¹¹

Although 70% of children and adolescents who need mental health treatment are currently receiving treatment, almost 1 in 3 in need of treatment are not receiving it. 2007 was the first year this indicator was available.

Proportion of 2-17 Year-old Children Who Needed Mental Health care Who Received Such Care, Maine, 2007



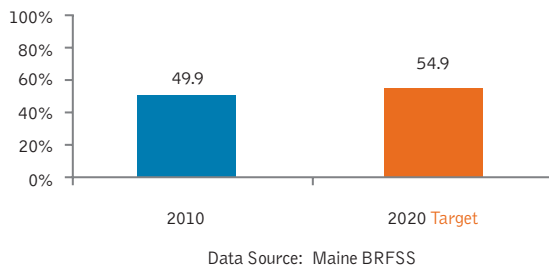
Data Source: National Survey of Children's Health

5. Increase the proportion of adults with mental health disorders who receive treatment

There are evidence-based treatments that can positively affect the quality of life for those with depression. Treatment for depression can also positively affect co-occurring health issues and reduce suicide.¹²

In 2009, approximately half of adults who reported depression were receiving mental health treatment; the Healthy Maine goal is 54.9%. The survey question used for this indicator was first asked in a 2009 survey, therefore trend data is not yet available.

Proportion of Adults With Moderate to Severe Depression, Who Report That They Are Receiving Counseling or Medication for Their Mental Health, Maine, 2010



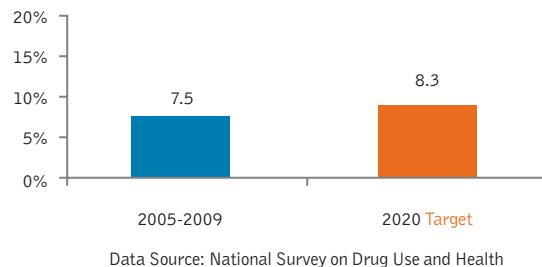
6. Increase the proportion of persons with co-occurring substance abuse and mental disorders who receive treatment for both disorders

Studies have shown that serious mental illness is correlated with illicit drug use and that adults who were heavy alcohol users in the past month were more likely to have a serious mental illness than those who were not.¹³ Some 60% of people with severe and persistent mental illnesses abuse

substances. Substance abuse is also relatively common among persons with less severe forms of mental illness.¹⁴ Among all types of mental illness and age groups, substance abuse compounds the existing problem and makes effective treatment more difficult. Over the past ten years, Maine has been among the leaders nationally in attempting to address the problem of dual diagnosis,¹⁴ however much work remains to be done in the coming decade.

In the period of 2005-2009, 7.5% of adults with co-occurring serious psychological distress and alcohol or illicit drug dependence or abuse received treatment or counseling at a treatment facility in the last year. The Healthy Maine 2020 goal is 8.3%.

Adults 18+ With Co-occurring Serious Psychological Distress and Alcohol or Illicit Drug Dependence or Abuse Who Received Mental Health Treatment/Counseling and Illicit Drug or Alcohol Treatment at a Specialty Facility in the Past Year, Maine, 2005-09



Methodology

1. Increase the proportion of primary care facilities that provide mental health treatment onsite or by paid referral

Measure: Percent of primary care facilities that provide mental health treatment onsite or by paid referral.

Numerator: Number of primary care facilities receiving HRSA grant funds that provide mental health treatment on site or paid by referral.

Denominator: Number of primary care sites receiving HRSA grant funds.

Target setting method: Complete achievement, less than a 10% improvement.

Other notes: This is data reported by HRSA grantees as part of the Uniform Data System Report. It does not include any primary care sites that do not receive HRSA funding. It does not detail the extent of services available. There is a need for more information from a broader array of primary care providers, but there are no better data sources available at this time. This is a Healthy People 2020 objective. Although this data source is imperfect, no other Maine-based data sources were considered practical for this objective.

2. Increase healthy behaviors of people with mental health issues

SUB-OBJECTIVES:

2a. Increase the proportion of persons with a diagnosis of depression or anxiety who eat five fruits and vegetables per day.

Measure: Percent of persons with a diagnosis of depression or anxiety who eat five fruits and vegetables per day.

Numerator: Number of respondents who report that they have ever been diagnosed with depression or anxiety who report that they have eaten at least 5 fruits or vegetables per day during the past week.

Denominator: Number of respondents who report they have ever been diagnosed with depression or anxiety and responded to fruit and vegetable question.

2b. Increase the proportion of persons with a diagnosis of depression or anxiety who meet the recommendations for physical activity.

Measure: Percent of persons with a diagnosis of depression or anxiety who meet recommendations for physical activity.

Numerator: Number of respondents who report that they have ever been diagnosed with depression or anxiety who report that they have participated in at least 20 minutes of vigorous activity at least 3 days/week or 30 or more minutes of moderate exercise 5 or more days per week

Denominator: Number of respondents who report they have ever been diagnosed with depression or anxiety and responded to physical activity question.

2c. Increase the proportion of persons with a diagnosis of depression or anxiety who do not smoke.

Measure: Percent of persons with of persons with a diagnosis of depression or anxiety who do not smoke.

Numerator: Number of respondents who report that they have ever been diagnosed with depression or anxiety who report that they are not current smokers (RFSMOK2).

Denominator: Number of respondents who report they have ever been diagnosed with depression or anxiety and responded to smoking question.

2d. Increase the proportion of persons with a diagnosis of depression or anxiety who are not heavy drinkers.

Measure: Percent of persons with a diagnosis of depression or anxiety who are not heavy drinkers who report that they have ever been diagnosed

with depression who report that they are not heavy drinkers (>2 drinks per day for men, >1 drink per day for women).

Denominator: Number of respondents who report they have ever been diagnosed with depression or anxiety and responded to binge drinking question.

Target setting method: 10% Improvement, except for 2d., which is a 5% improvement.

Other notes: Data are statistically weighted to be more representative of the general adult population of Maine and to adjust for non-response.

3. Reduce co-morbidity for persons with mental illness

Measure: Percent of persons with a diagnosis of anxiety or depression who have at least one selected chronic disease (diabetes, asthma, hypertension).

Numerator: Number of respondents who report ever having been diagnosed with anxiety or depression and who report being diagnosed with asthma, diabetes, or hypertension.

Denominator: Number of respondents with a diagnosis of depression or anxiety and responded to asthma, diabetes or hypertension questions.

Target setting method: 10% Improvement.

Other notes: Data are statistically weighted to be more representative of the general adult population of Maine and to adjust for non-response.

4. Increase the proportion of children with mental health problems who receive treatment

Measure: Percent of 2-17 year old children who needed mental health care who received such care

Numerator: Number of 2-17 year olds for whom parent/guardian answers yes to both “Does [CHILD] have any kind of emotional, developmental, or behavioral problem for which

[he/she] needs treatment or counseling”? and “Mental health professionals include psychiatrists, psychologists, psychiatric nurses, and clinical social workers. During the past 12 months, has [CHILD’S NAME] received any treatment or counseling from a mental health professional?”

Denominator: Number of 2-17 year olds for whom parent/guardian answers yes to “Does [CHILD] have any kind of emotional, developmental, or behavioral problem for which [he/she] needs treatment or counseling?”

Target setting methods: 10% improvement (same method as HP2020).

Other notes: This is a Healthy People 2020 measure, but uses a different data source, the National Survey of Children’s Health. Data query from the Child and Adolescent Health Measurement Initiative, Data Resource Center for Child and Adolescent Health website. Retrieved [01/05/12] from childhealthdata.org. Significant changes were made to the denominator, question, and introduction of this indicator in the 2007 NSCH survey. In 2007 the age range was restricted to children age 2-17 years. Also in 2007, examples of mental health professionals and services were added to wording of the question introduction and text. It is for these reasons that only 2007 data are presented. The NSCH is only conducted every 4 years.

5. Increase the proportion of adults with mental health disorders who receive treatment

Measure: Percent of adults who met the criteria for current moderate or severe depression on the PHQ-8, who report that they are receiving counseling or medication for their mental health.

Numerator: Number of adults who meet the criteria for current moderate or severe depression on the PHQ-8 (PHQ-8 score ≥ 10) and respond “yes” to receiving counseling for their mental health.

Denominator: Number of adults who meet the criteria for current moderate or severe depression on the PHQ-8 (PHQ-8 score ≥ 10) and respond “yes” or “no” to receiving counseling for their mental health.

Target setting method: 10% improvement.

Other Notes: Data are statistically weighted to be more representative of the general adult population of Maine and to adjust for non-response. Maine includes a depression screening module on the BRFSS, which is not available in all states. This is more inclusive than the HP 2020 measure from National Survey of Drug Use in Households (NSDUH), which is limited to those experiencing a major depressive episode. The Maine data for this indicator has small numbers and therefore is not able to be tracked. Additional data from NSDUH on treatment for those with any mental illness may be added in the future.

6. Increase the proportion of persons with co-occurring substance abuse and mental disorders who receive treatment for both disorders

Measure: Five year aggregate percentage of persons aged 18 or older with co-occurring serious psychological distress (SPD) and alcohol or illicit drug dependence or abuse who received mental health treatment/counseling and illicit drug or alcohol treatment at a specialty facility.

Numerator: Number of people who reported serious psychological distress (SPD) and alcohol or illicit drug dependence or abuse, and reported receiving treatment for both. Mental Health Treatment/Counseling is defined as having received inpatient care or outpatient care or having used prescription medication for problems with emotions, nerves,

or mental health. Respondents were not to include treatment for drug or alcohol use. Respondents with unknown treatment/counseling information were excluded. Estimates were based only on responses to items in the Adult Mental Health Service Utilization module. Received Illicit Drug or Alcohol Treatment at a Specialty Facility refers to treatment received at a hospital (inpatient), rehabilitation facility (inpatient or outpatient), or mental health center in order to reduce or stop drug or alcohol use, or for medical problems associated with drug or alcohol use.

Denominator: Number of people who reported serious psychological distress (SPD) and alcohol or illicit drug dependence or abuse. Serious Psychological Distress (SPD) is defined for this table as having a score of 13 or higher on the K6 scale in the past year.

Target setting method: 10% improvement.

Other Notes: Estimates for 2005, 2006, and 2007 are based on an adjusted SPD variable and may differ from estimates published in prior NSDUH reports. See Section B.4.5 in Appendix B of the Results from the 2008 National Survey on Drug Use and Health: National Findings.

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Occupational Health

Background

During the average working day, 45% of Americans spend close to eight hours, or a third of the 24-hour day, on work or work-related activities.¹ Given the length of time spent in this context, workplace environments and activities have an enormous impact on the working population's health. Nationally, millions of workers are injured or fall ill every year due to hazards in their workplaces.² Between 2000 and 2010, each year had an average of 5,477 workplace fatalities nationwide.³ The most common causes of these fatalities, in order, were: highway incidents, falls, homicides, and being struck by an object.

Health Equity Highlight: Low-income Health Care Workers

Health care is one of top three fastest growing sectors over the last decade in Maine, employing 28% of all Maine employees. Almost one third of healthcare employees working nursing and residential care facilities, and make on average 36% less than the average average salary in Maine.⁶

While rates of occupational injury to healthcare workers have decreased over the past decade, rates of injuries in nursing and residential care facilities are not decreasing as fast as older health care sectors and are almost twice as high as all injuries in all sectors combined.⁷

Nursing aides, orderlies, and attendants consistently ranked among the occupations reporting the most disabling workers' compensation claims from 1995 to 2010.⁸ These workers' job duties include lifting and moving patients and materials resulting in a high frequency of overexertion and musculoskeletal disorders. There is high turnover in this occupation which may contribute to the high rate of injuries.

According to the Government Accountability Office (GAO), these numbers may all be underestimates.⁴ The GAO found that there are incentives for underreporting, both between employees and employers and from employers to government agencies. This agency also reports that national and state data systems designed to capture information about work-related illnesses and injuries are inadequate to the task. In addition to the undercounting that occurs among regular employees and employers, "non-standard work relationships" (e.g. contingent employment, contracting, unofficial and part-time arrangements) lead to further undercounting, as employers and employees in these relationships may not be bound by reporting rules.⁵ Work-related health hazards cause an enormous impact on productivity and quality of life that is not fully calculable.

The federal Occupational Safety and Health Administration (OSHA) sets national standards for workplace health and safety in the private sector. The Maine Department of Labor (DOL) sets health and safety standards for Maine employees in the public sector. DOL also analyzes data from lost-time workers' compensation claims to develop information about Maine's work related injuries and illnesses. In addition, each year, DOL administers the federal Survey of Occupational Injuries and Illnesses to a sample of Maine employers, which generates additional information regarding work related injury and illness rates in Maine.

The Department of Health and Human Services administers the Occupational Disease Reporting Law which requires healthcare providers, healthcare facilities and medical laboratories to report designated occupational diseases. Another partner in addressing workplace safety is the Department of Environmental Protection, which sets standards for and conducts inspections related to environmental hazards in workplaces.

Outside of state government, hospitals throughout the state provide both occupational medicine and workplace wellness programs that can be accessed by employers.

The Public Health Response

The workplace environment, from its production processes to quality of its tools, is the largest factor in a worker's safety and health and his or her risk of injury, illnesses, or even fatality.⁹ Reduction of poor health outcomes for employees requires assessment of the theories and premises behind how the work is carried out, as well as examination of work methods and basic site safety. Ideally, workplaces and processes would be designed beforehand with safety and comfort in mind (i.e. properly ventilated, equipped with appropriate tools of good quality, lighted and furnished so as to reduce the impact of physical motions required, equipped with break spaces, etc.). However, healthy and safety audits can still be conducted to benefit the workplace even if initial design is long in the past. The National Institute for Occupational Safety and Health (NIOSH) has generated stakeholder-designed solutions for eliminating hazards and eliminating risks tailored to specific industries.

HM2020 Objectives:

1. Reduce the rate of injury and illness cases involving days away from work due to overexertion or repetitive motion

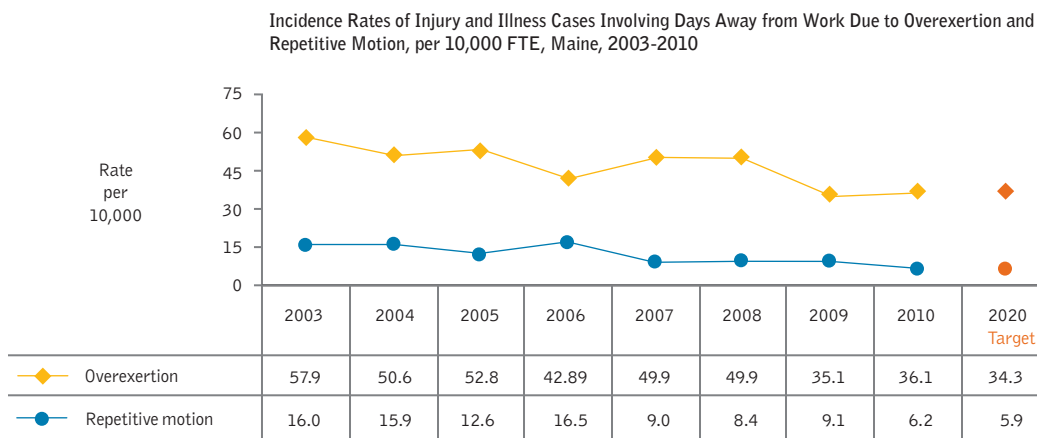
In the first half of the decade from 2000 to 2005, a total of 93,100 work-related injuries and illnesses were reported to the state.⁹ The most common injury-causing events, in order, were overexertion in lifting and falling on floors or other surfaces.

1a. Reduce the rate of injury and illness cases involving days away from work due to overexertion

With the increase of health care workers and care-giving occupations due to Maine's older population, this cause of injury merits monitoring. Although the rate is not stable due to small numbers, the trend has been generally decreasing, and the Healthy Maine 2020 goal is another 5% decrease in the next 10 years.

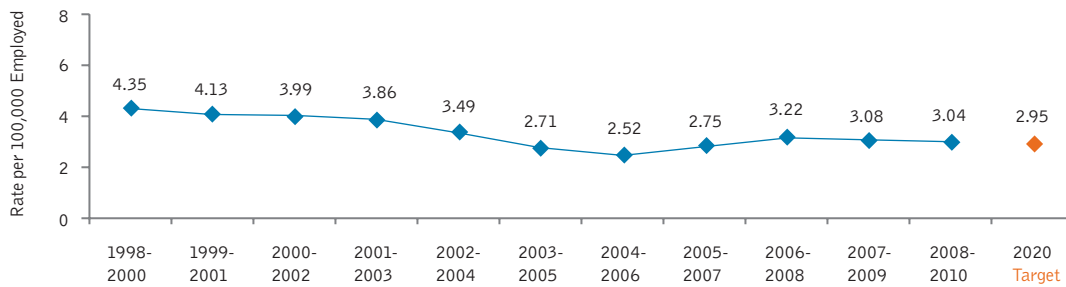
1b. Reduce the rate of injury and illness cases involving days away from work due to repetitive motion

Repetitive injuries are greatest in the office and manufacturing industry sectors. This has also been trending downwards, and the target for 2020 is a further 10% reduction.



Data source: U.S. Bureau of Labor Statistics Survey of Occupational Injuries and Illnesses

Rate of Death From Work-related Injuries Per 100,000 Employed, Maine, Three-year Moving Averages, 1998-2010



Source: Maine Bureau of Labor

2. Reduce deaths from work-related injuries

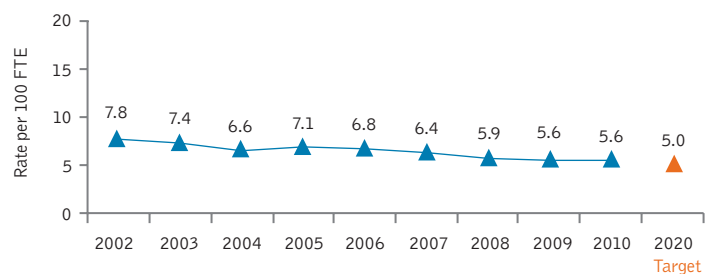
In the latter half of the decade, from 2005 to 2010, a total of 115 Maine workers died as a result of workplace hazards.⁵ Despite the variations in year to year rates, Maine's rate is consistently one of the highest in New England. Maine's high proportion of workers in Farm, Forest and Fishing Industries puts a greater number of Maine workers' at risk for fatal injuries on the job. The majority of Maine's worker fatalities are the result of transportation incidents across industries.

The work-related injury fatality rate has fluctuated over time. There was a slow decline in the rate in the first part of the last decade, followed by a small increase in the second half of the decade. The increases did not reach the same levels as the highest point in the early part of the decade. In 2009 the rate was 3.04 deaths per 100,000 employed; the Healthy Maine 2020 goal is 2.95 deaths per 100,000.

be used to identify contributory factors and to develop improved or new prevention strategies or regulations to protect workers.

The most frequently referenced measurement of the likelihood of being injured or ill on the job is the non-fatal total recordable incidence case rate. This rate has decreased gradually since 2002. The target is a 10% reduction in the next decade.

Non-fatal Work-related Injuries Per 100 FTE, Maine, 2009-2010



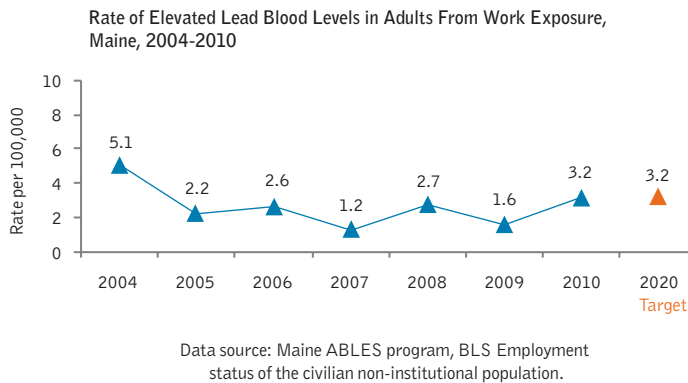
Data source: U.S. Bureau of Labor Statistics Survey of Occupational Injuries and Illnesses

3. Reduce nonfatal work-related injuries

Estimating the burden and tracking work-related injuries can help target prevention programs and activities. Information on reported cases can

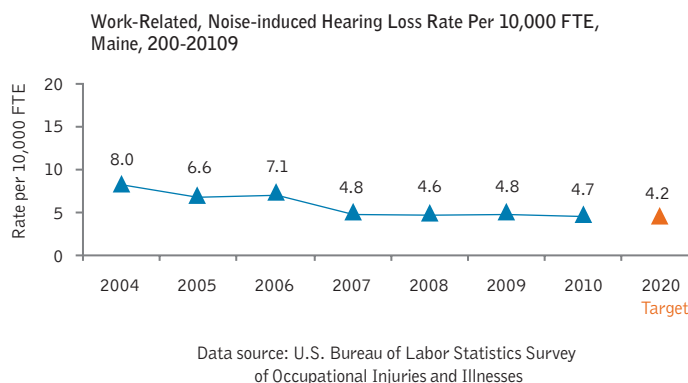
4. Reduce the proportion of persons who have elevated blood lead concentration from work exposure

From 2004-2010, as many as 107 Maine adults developed elevated blood leads > 25 mcg/dl as a result of work exposures.¹⁰ In 2010 the rate of elevated blood levels in adults was 3.2 adults per 100,000; the Healthy Maine 2020 goal is 3.2. The goal aims for a 0% reduction based on estimated increases in screening and decreases in exposure.



5. Reduce new cases of work-related, noise-induced hearing loss

Approximately 22 million U.S. workers are exposed to hazardous noise levels at work, and an additional 9 million exposed to ototoxic chemicals. An estimated \$242 million is spent annually on worker's compensation for hearing loss disability.¹¹

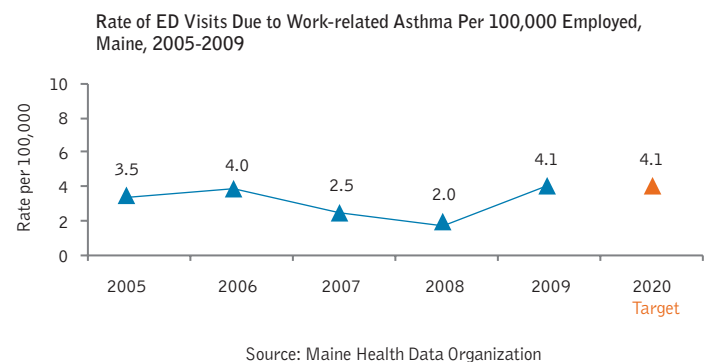


The Maine 2010 work-related noise-induced hearing loss rate was 4.7 people per 10,000 FTE; the Healthy Maine 2020 goal is 4.2 per 10,000. 2004 is the earliest year that this data was reported as a separate category. Since then, there has been a general decline in the rate. The Healthy Maine 2020 goal is a 10% reduction.

6. Reduce emergency department visits for work-related asthma

One in seven U.S. adults suffers from work-related asthma, according to American Thoracic Society estimates. Work-related asthma can be prevented. Monitoring trends will help us to develop intervention strategies.

In Maine, the number of emergency department (ED) visits due to work-related asthma varied from 2005 to 2009, but the trend did not show significant decreases or increases. In 2009 there was a rate of 4.1 ED visits per 100,000 and the Healthy Maine 2020 goal is the same. The 0% reduction is based on an increase in recognition of the causal relationship between workplace exposures and asthma and a decrease in exposure.



Methodology Notes:

1. Reduce the rate of injury and illness cases involving days away from work due to overexertion or repetitive motion

SUB-OBJECTIVES:

- 1a. Reduce the rate of injury and illness cases involving days away from work due to overexertion.

Measure: The rate of injury and illness cases involving days away from work due to overexertion per FTE.

Numerator: Number of injuries and illness with the event code of overexertion X 20,000,000.

Denominator: Total hours worked.

Target setting method: 5% reduction.

- 1b. Reduce the rate of injury and illness cases involving days away from work due to repetitive motion.

Measure: The rate of injury and illness cases involving days away from work due to repetitive motion per FTE.

Numerator: Number of injuries and illness with the event code of repetitive motion X 20,000,000.

Denominator: Total hours worked.

Target setting method: 10% reduction.

Other notes: Days away criteria, employer reports, and lack of self-employed in sample results in undercounts. Survey is based on employers' self-reporting their own business's injury and illness record and is therefore subject to employers' knowledge of OSHA recordkeeping rules. There is some evidence of inconsistencies between businesses relating to this knowledge. Further detail is provided in Bureau of Labor documentation. After reviewing HP 2020 options, the occupational health sub-committee chose measures relevant to Maine that are similar to those on the CSTE occupational health indicator list.

2. Reduce deaths from work-related injuries

Measure: Deaths from work-related injuries.

Numerator: Count of work-related deaths in persons greater than 16 years of age.

Denominator: Employed population age 16 years or older residing in Maine (from: Employment status of the civilian non-institutional population in states by sex, race, Hispanic or Latino ethnicity, marital status, and detailed age; Maine; bls.gov/gps/#tables).

Target setting method: 10% reduction in 10 year moving average.

Other notes: The numerator is derived from multiple data sources, including death certificates, media sources, workers comp, OSHA, & USCG, and de-duplicated. Small counts in the numerator and denominator throughout New England result in large year to year variations. Due to the high self-employed population, and some difficulty determining who may have been "on the job" at the time of a motor vehicle-related fatality, this number is likely to be an undercount. Also, while the numerator takes into account the number of worker fatalities in Maine, the denominator looks at the number of those living in Maine who are employed. Further detail is provided in Bureau of Labor documentation. After reviewing HP 2020 options, the occupational health sub-committee chose measures relevant to Maine that are similar to those on the CSTE occupational health indicator list.

3. Reduce non-fatal work-related injuries

Measure: non-fatal injuries per FTE.

Numerator: Number of "recordable" injuries x 200,000 (100 employees x 40 hours x 50 weeks).

Denominator: Total hours worked.

Target setting method: 10% reduction.

Other Notes: Days away criteria, employer reports, and lack of self-employed in sample results in undercounts. Survey is based on employers' self-reporting their own business's injury and illness record and is therefore subject to employers' knowledge of OSHA recordkeeping rules. There is some evidence of inconsistencies between businesses relating to this knowledge. Further detail is provided in Bureau of Labor documentation. After reviewing HP 2020 options, the occupational health sub-committee chose measures relevant to Maine that are similar to those on the CSTE occupational health indicator list.

4. Reduce the proportion of persons who have elevated blood lead concentration from work exposure

Measure: The rate of persons who have elevated blood lead concentration from work exposure X 100,000 divided by the number of employed persons.

Numerator: Number of Maine adults, > age 16, in a given year with blood lead level > 25 mcg/dl due to a work exposure.

Denominator: Employed population age 16 years or older residing in Maine (from: Employment status of the civilian non-institutional population in states by sex, race, Hispanic or Latino ethnicity, marital status, and detailed age; Maine; bls.gov/gps/#tables).

Target setting method: 0% reduction based on increases in screening and decreases in exposure.

Other notes: Other notes: Current data source only includes follow-up on work exposure for those with blood lead level > 25 mcg/dl, although the new standard is > 10 mcg/dl. When data on the new standard becomes available, it may be desirable to change this objective to match the new standard. National ABLES calculates rates with total (work and non-work related) as the numerator with

employed persons as denominator. In most states this may be ok as almost all leads are occupational. In Maine about 30% of our elevated leads are non-occupational, so the rates you see here for just work-related are lower than on the ABLES website. Rates for the individual years are prevalence rates, so some individuals may appear in more than one year. The 2004-2010 total is de-duplicated. After reviewing HP 2020 options, the occupational health sub-committee chose measures relevant to Maine that are similar to those on the CSTE occupational health indicator list.

5. Reduce new cases of work-related, noise-induced hearing loss

Measure: Work-related, noise-induced hearing loss incidence per 10,000 FTE.

Numerator: Number of reported hearing losses (based on Bureau of Labor standard).

Denominator: Total hours worked.

Target setting method: 10% reduction.

Other notes: Days away criteria, employer reports, and lack of self-employed in sample results in undercounts. Survey is based on employers' self-reporting their own business's injury and illness record and is therefore subject to employers' knowledge of OSHA recordkeeping rules. There is some evidence of inconsistencies between businesses relating to this knowledge. Further detail is provided in Bureau of Labor documentation. After reviewing HP 2020 options, the occupational health sub-committee chose measures relevant to Maine that are similar to those on the CSTE occupational health indicator list.

6. Reduce emergency department visits for work-related asthma

Measure: Rate of emergency department visits due to work-related asthma.

Numerator: Number of emergency department visits with asthma as the primary diagnoses, and workers' compensation as the payer or a E-code.

Denominator: Employed population age 16 years or older residing in Maine (from: Employment status of the civilian non-institutional population in states by sex, race, Hispanic or Latino ethnicity, marital status, and detailed age; Maine; bls.gov/gps/#tables).

Target setting method: 0% reduction based on increases in screening and decreases in exposure.

Other notes: Data is age-adjusted. May be an undercount if E-code on work-related is not included and workers comp is not the payer (for example, an individual uses his or her own insurance to pay). After reviewing HP 2020 options, the occupational health sub-committee chose measures relevant to Maine that are similar to those on the CSTE occupational health indicator list.

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Physical Activity and Nutrition

Background:

The U.S. has experienced a sharp increase in the rate of obesity since 1980.¹ This trend has increased risks for, many chronic diseases such as heart disease, type 2 diabetes, several types of cancers, stroke and asthma.^{1,2} The diseases and disabilities which accompany the obesity trend are costly in terms of lost quality of life and productivity. Preventable medical costs in the U.S. are estimated at \$66 billion dollars per year.²

Health Equity Highlight: Disability

People with disabilities experience disparities related to maintaining a healthy weight and meeting recommendations for physical activity and nutrition. While it is not always clear whether obesity and sedentary lifestyle leads to disability, or whether a disability makes achieving these more difficult, there are some clear correlations. Different types of disabilities can create a variety of barriers to healthy behaviors.

- In 2008, 36.3% of people who reported limitations in activities because of physical, mental, or emotional problems or a health problem that required use of special equipment were obese, while only 22.4% of those without these limitations were obese.⁷
- In 2007, 14.5% of people who reported limitations in activities because of physical, mental, or emotional problems or a health problem that required use of special equipment reported doing no physical activity or exercise, compared to 3.2% of people without these limitations.⁸

The rise in obesity is related to shifts in diet and physical activity.¹ Americans increasingly work at jobs and pursue hobbies that are sedentary in nature. Meanwhile, greater quantities of food and denser calorie foods are consumed as a larger part of the diet. These two factors work together to drive

average weights up, along with the risk of chronic disease, early death, and disability.

Starting in 1995, and continuing into 2008, Maine's adult population consistently ranked as having the highest obesity rates in New England.³ Maine's adult obesity rate in 2010 was 26.8%, making it one of 36 states with an adult obesity rate greater than 25%.⁴ Despite its status as a relatively heavy state, Maine's 2008-2010 rate of food insecurity was significantly higher than the national average in the "very low security" category.⁵ Maine currently has the highest food insecurity rates of all the New England states.

The Public Health Response

Reducing and reversing the trend towards unhealthy weight requires action at every level of a state and community.⁶ Strategies that are known to work include restructuring the food environment to make healthy choices easier, building physical activity into school and workplace schedules, and providing information about how to incorporate these initiatives into daily lifestyles. In order to be successful, communities must adopt and promote messages that support those choices and spaces that provide opportunities for active lifestyles. Programs and individuals that provide food for others can also design their menus and offerings to meet requirements for a healthy lifestyle. Awareness of areas with low access to healthy foods, called food deserts, and initiatives to reduce these also promote healthy eating. Promotion of public programs such as "Let's Go!" and "March into May" can improve rates of physical activity.

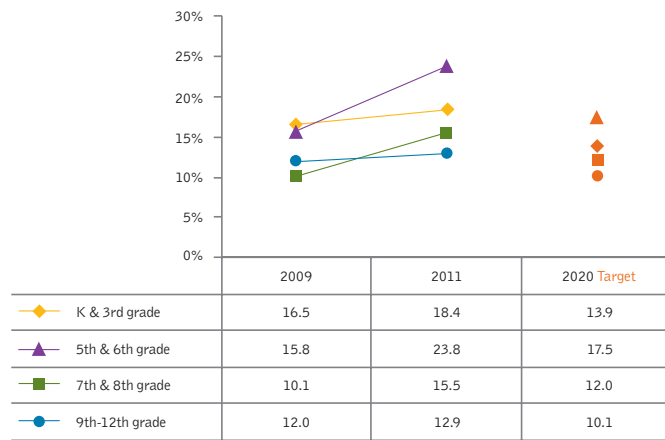
Healthy Maine 2020 Objectives:

1. Reduce the proportion of children and adolescents who are considered obese

Children and adolescents who are obese are likely to be obese as adults and are therefore more at risk for adult health problems such as heart disease, type 2 diabetes, stroke, several types of cancer, and osteoarthritis. One study showed that children who became obese as early as age 2 were more likely to be obese as adults.⁹

Only one year of Maine Integrated Youth Health Survey data is currently available. However, historical Youth Risk Behavior Survey data suggests that there has been little change in the prevalence of child and adolescent obesity over the past decade.

Proportion of children who are obese by grade, Maine, 2009, 2011



Data source: Maine Integrated Youth Health Survey

1a. Reduce the percentage of kindergarten and 3rd grade students who are obese

In 2011 approximately 18% of kindergarten and 3rd grade students were obese. The Healthy Maine 2020 goal is 13.9%.

1b. Reduce the percentage of 5th and 6th grade students who are obese

In 2011 approximately 24% of 5th and 6th grade students were obese. The Healthy Maine 2020 goal is 17.5%.

1c. Reduce the percentage of 7th and 8th grade students who are obese

In 2011 approximately 16% of 7th and 8th grade students were obese. The Healthy Maine 2020 goal is 12%.

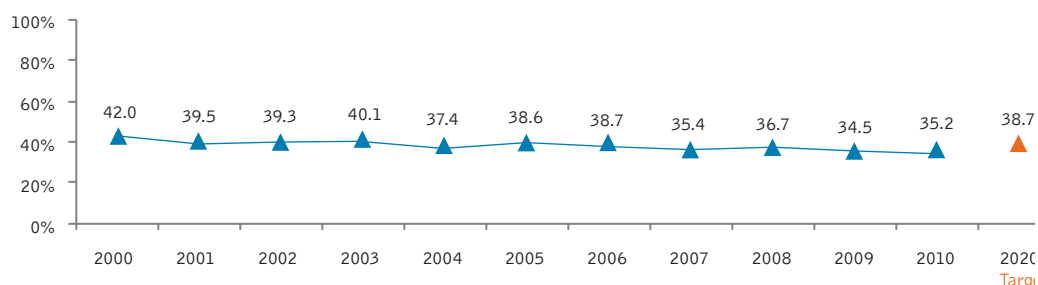
1d. Reduce the percentage of 9-12 grade students who are obese

In 2011 approximately 13% of high school students were obese. The Healthy Maine 2020 goal is 10.1%.

2. Increase the proportion of adults who are at a healthy weight

The nation is currently experiencing an epidemic of obesity and obesity-related conditions. The percentage of adults who are at a healthy weight has

Proportion of Adults at a Healthy Weight, Maine, 2000-2010



Data source: Maine BRFSS

declined over the past decade from 42% in 2000 to 35% in 2010. The Healthy Maine 2020 goal is 38.7%.

3. Increase the proportion of students who attend daily physical education (PE) at school

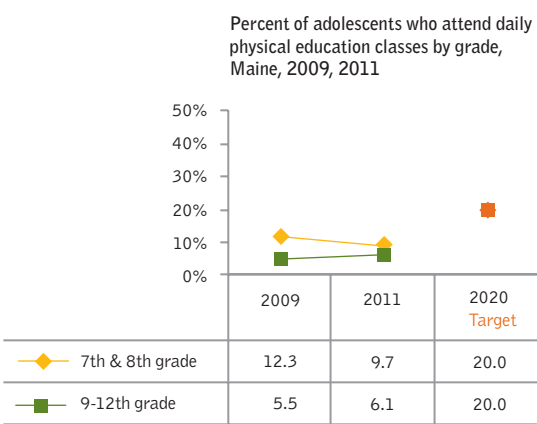
Physical activity improves health and quality of life and is one major way to prevent and control overweight and obesity. Daily physical education at school can increase physical activity among students.

3a. Increase the proportion of 7th & 8th grade students who attend daily physical education (PE) at school

In 2011 approximately 10% of 7th and 8th grade students attended daily physical education at school. The Healthy Maine 2020 goal is 20%.

3b. Increase the proportion of 9-12th grade students who attend daily physical education (PE) at school

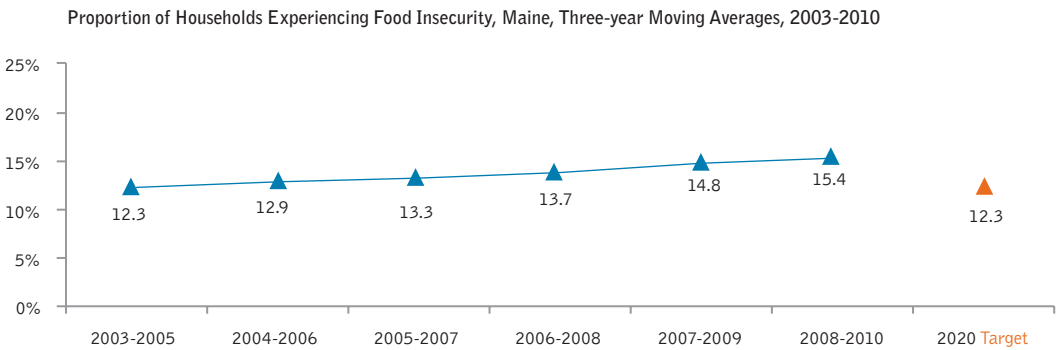
In 2011 approximately 6% of 9th-12th grade students attended daily physical education at school. Maine rates are lower that other New England states. The Healthy Maine 2020 goal of 20% is based on the average of these other states' rates.



Data source: Maine Integrated Youth Health Survey

4. Reduce the percentage of households experiencing food insecurity

Food insecurity directly impacts the ability of individuals to consume a healthy diet which promotes overall health and prevents and controls disease. The percentage of Maine households experiencing food insecurity has been increasing since 2003-2005. In 2008-2010 approximately 15% of Maine households experienced food insecurity. The Healthy Maine 2020 goal is to reduce that number to 12.3%.



Data source: USDA Annual Reports on Household Food Insecurity

5. Increase fruit and vegetable consumption among adults and children

Adequate fruit and vegetable intake can reduce the risk of developing chronic diseases, including stroke, possibly other cardiovascular diseases, and certain cancers. Increasing the contribution of total fruit vegetables to the diet of the population aged 2 and older is a Healthy People 2020 Leading Health Indicator.

5a. Increase the percentage of Kindergarten & 3rd grade students who eat five or more servings of fruits and vegetables daily

In 2011, approximately 26% of kindergarten and 3rd grade students ate 5 or more servings of fruit and vegetables daily. The Healthy Maine 2020 goal is 31.3%.

5b. Increase the percentage of 5th and 6th graders who eat five or more servings of fruits and vegetables daily

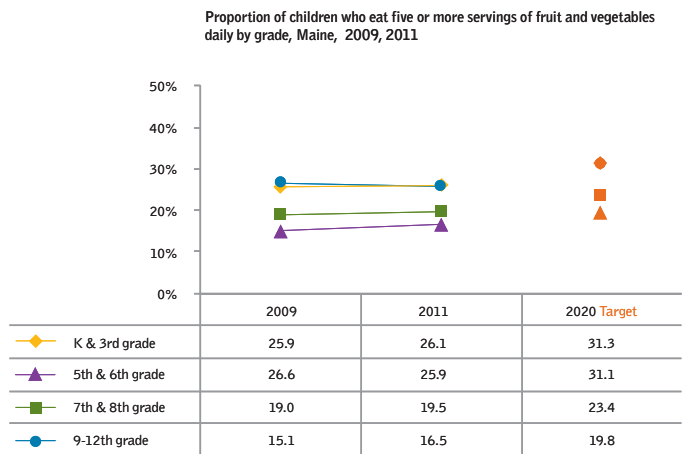
In 2011, approximately 26% of 5th and 6th grade students ate 5 or more servings of fruit and vegetables daily. The Healthy Maine 2020 goal is 31.1%.

5c. Increase the percentage of 7th & 8th grade students that eat five or more servings of fruits and vegetables daily

In 2011, approximately 20% of 7th and 8th grade students ate 5 or more servings of fruit and vegetables daily. The Healthy Maine 2020 goal is 23.4%.

5d. Increase the percentage of 9th-12th grade students that eat five or more servings of fruits and vegetables daily

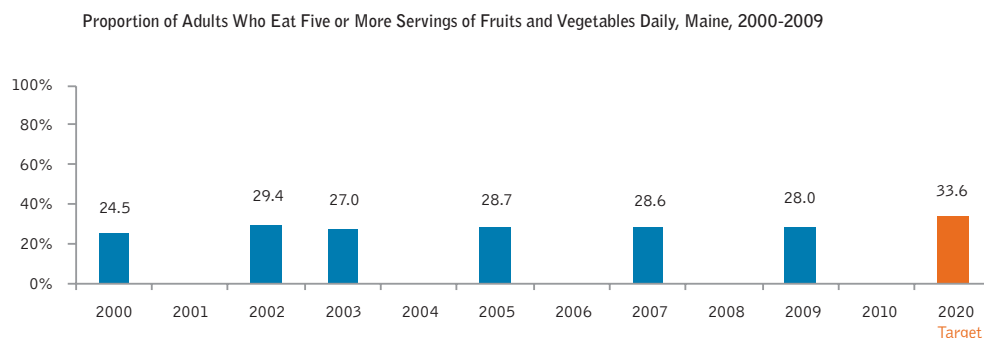
In 2011, approximately 17% of 9th-12th grade students ate 5 or more servings of fruit and vegetables daily. The Healthy Maine 2020 goal is 19.8%.



Data source: Maine Integrated Youth Health Survey

5e. Increase the percentage of adults that eat five or more servings of fruits and vegetables daily

While there was some slight improvement in adult fruit and vegetable intake between 2000 and 2002, there has been no improvement since. In 2009, approximately 28% of adults ate 5 or more fruit and vegetables daily. The Healthy Maine 2020 goal is 33.6%.



Data source: BRFSS

Methodology Notes:

1. Reduce the proportion of children and adolescents who are considered obese

SUB-OBJECTIVES:

- 1a. Reduce the percentage of kindergarten and 3rd grade students who are obese.
- 1b. Reduce the percentage of 5th and 6th grade students who are obese.
- 1c. Reduce the percentage of 7th and 8th grade students who are obese.

Measures: Percentage of students in specified grades who are obese (\geq 95th percentile of Body Mass Index (BMI) for age and sex).

Numerators: Number of students whose heights and weights (physical measures for 1a, student reports for 1b & 1c) place them in the 95th percentile or above for BMI for age and sex.

Denominators: Number of students in specified grades with a valid (non-missing) BMI.

Target setting method: The White House Task Force on Childhood Obesity in 2010 established the goal of reducing childhood obesity prevalence to that which existed in the 1960s and 1970s in a generation, or reducing the prevalence to 5% by 2030. The Healthy Maine 2020 target is set assuming one third of the reduction will occur by 2020, the remaining two-thirds reduction by 2030.

Other notes: The measure is the same as a Healthy People 2020 objective, but for grade levels, rather than for specific age groups (2-5, 6-11, and 12-19 years). The Healthy People 2020 objective also uses a different data source, National Health and Nutrition Examination Survey (NHANES), which is based on physical measures of heights and weights, but is not available at the state level. The Maine Integrated Youth Health Survey (MIYHS) kindergarten and 3rd grade BMIs are also based on physical measures of heights and weights, while the older grades are based on student report. Data

are statistically weighted to be more representative of the general student population of Maine and to adjust for non-response.

2. Increase the proportion of adults who are at a healthy weight

Measure: Percentage of adults 18+ with a Body Mass Index (BMI) ≥ 18.5 and < 25 .

Numerator: Number of individuals with a BMI ≥ 18.5 and < 25 based on respondents self-reported height and weight.

Denominator: Number of respondents with valid BMI.

Target setting method: The target is aligned with HP2020: 10% improvement from the 2010 prevalence (35.2)

Other notes: The measure of healthy weight is the same as for Healthy People 2020, but the Healthy People 2020 measure is among adults 20+ years of age, and uses National Health and Nutrition Examination Survey (NHANES) data, which is based on physical measures of height and weight, but is not available at the state level. The Healthy Maine 2020 measure is among adults 18+ years of age and is based upon self-reported height and weight. This variable is created variable from continuous BMI variable (_BMI4 and _BMI2). Data are statistically weighted to be more representative of the general adult population of Maine and to adjust for non-response.

3. Increase the proportion of students who attend daily physical education (PE) at school

SUB-OBJECTIVES:

- 3a. Increase the proportion of 7th & 8th grade students who attend PE daily (weighted).
- 3b. Increase the proportion of 9-12th grade students who attend PE daily (weighted).

Measure: Percentage of students in specified grades who report attending physical education on five or more days in an average week when they are at school.

Numerator: Number of students in specified grades who report attending physical education on five or more days in an average week when they are at school.

Denominator: Number of students in specified grades who responded to the physical education frequency question.

Target setting method: Based on current 9-12th grade rates for other New England states, which range from 17.9% - 24.0%.

Other notes: The HP2020 measure is the same, but there is no indicator for 7th & 8th grade students. The Healthy Maine 2020 uses national Youth Risk Behavior Surveillance System data as the data source. Maine Integrated Youth Health Survey (MIYHS) provides a more representative estimate for Maine than the Youth Risk Behavior Survey. Data are statistically weighted to be more representative of the general student population of Maine and to adjust for non-response.

4. Reduce the percentage of households experiencing food insecurity

Measure: Percentage of Maine households experiencing food insecurity (low or very low food security).

Numerator: Number of Maine households experiencing low or very low food security.

Denominator: Total number of Maine households.

Target Setting method: A 20% improvement over the 2008-2010 rate (15.4), which will bring Maine back to the 2003-2005 level.

Other notes: Data used is published in USDA Annual Reports on Household Food Insecurity, available

here: ers.usda.gov/Briefing/FoodSecurity/readings.htm#statistical. Percentages provided are three year averages to provide more stable rates. The measure and the data source are the same as Healthy People 2020.

5. Increase fruit and vegetable consumption among adults and children

SUB-OBJECTIVES:

- 5a. Increase the percentage of Kindergarten & 3rd grade students that eat five or more servings of fruits and vegetables daily.
- 5b. Increase the percentage of 5th & 6th grade students that eat five or more servings of fruits and vegetables daily.
- 5c. Increase the percentage of 7th & 8th grade students that eat five or more servings of fruits and vegetables daily.
- 5d. Increase the percentage of 9th -12th grade students that eat five or more servings of fruits and vegetables daily.

Measures for 5a-5d: Percentage of students in specified grades who ate fruits, 100% fruit juice, and/or vegetables five or more times per day during the past seven days

Numerator: Number of students in specified grades who said they ate fruits, 100% fruit juice and/or vegetables five or more times per day during the past seven days (parental response for K & 3rd graders).

Denominator: Number of students in specified grades with responses to fruit juice, fruit, and vegetable consumption questions.

Target setting method: A 20% improvement from the 2009 rate.

Other notes: Variable calculated using 3 questions: fruit juice, fruits and vegetables. No 5 times per day question on survey. Questions used: "During

the past 7 days how many times drank 100% fruit juice...”; “During past 7 days how many times ate fruit (not including fruit juice...”; “During past 7 days how many times ate vegetables...” The equivalent Healthy People 2020 measures are based upon mean daily intake (e.g., in cups) of both fruits and vegetables (measured separately) from dietary intake data from National Health and Nutrition Examination Survey (NHANES). Maine does not have comparable data. This is the most relevant and comparable data available. Data are statistically weighted to be more representative of the general student population of Maine and to adjust for non-response.

- 5e. Increase the percentage of adults that eat five or more servings of fruits and vegetables daily.

Measure: percentage of adults who ate fruits, 100% fruit juice, and/or vegetables five or more times per day during the past seven days.

Numerator: Number of Behavioral Risk Factor Surveillance System (BRFSS) respondents who said they ate fruits, 100% fruit juice and/or vegetables five or more times per day during the past seven days.

Denominator: Number of BRFSS respondents who answered food and vegetable consumption questions.

Target setting method: A 20% improvement from the 2009 rate

Other notes: Data are statistically weighted to be more representative of the general adult population of Maine and to adjust for non-response.

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Public Health Emergency Preparedness

Background

Threats that can lead to public health emergencies are always present. They include natural disasters as well as biological, chemical and radiological incidents and explosions. These threats can rapidly overwhelm routine public health systems. The impact of these threats can range from local outbreaks to incidents with statewide, national or global ramifications.

The 2009-2010 H1N1 influenza pandemic underscored the importance of communities being prepared to prevent, respond to, and rapidly recover from public health incidents in order to protect the health and safety of the public and emergency responders. In Maine and nationally, public health preparedness is ongoing. Preparing adequately for public health emergencies requires continual and coordinated efforts that involve every level of government, the private sector, nongovernmental organizations, and individuals.¹

Health Equity Highlight: People with Disabilities

For the millions of Americans who have disabilities, emergencies present a real challenge. These challenges range from mobility issues, to the need for disability-related supplies and medications, to special medical needs, to increased difficulty dealing with the stress of an emergency.

Lessons learned from the response to Hurricane Katrina show that people with disabilities were disproportionately affected by the storm. Census figures indicate that more than 20% of the population affected by Hurricane Katrina had some type of disability.

The Public Health Response

Public health emergency preparedness is a very broad focus area encompassing the critical infrastructure and key resources necessary for preparedness, response, and recovery. It includes the establishment and maintenance of security measures ranging from the protection of core public health functions, water/food systems and power grids to regional nuclear power plants. It also includes empowering and engaging citizens in their own coping and recovery strategies and those of their communities.² Preparedness and response is critically reliant on sound communication systems and collaboration.^{2,3}

Nationally and in Maine, hospital emergency departments are currently working at or above capacity on any given day due to staffing shortages, decreased revenues, and increasing numbers of uninsured seeking medical treatment at emergency departments. Because hospital emergency departments are already working at or above capacity, the ability to provide a high standard of care for additional patients during a disaster or public health emergency severely strains an already strained system. Unfortunately, federal funding allocated for public health emergency preparedness, including bioterrorism response, has progressively declined over the course of the last eight years, compromising our national state of readiness for disaster.³

Maine has developed public health emergency preparedness and response capacity at both the local and statewide level. Maintaining this capacity requires ongoing work with a focus on:^{4,5}

- Complete and tested public health emergency response plans.
- Systems to assure a trained, robust public health and healthcare system workforce.
- Ongoing crucial coverage and surge capacity for disease investigation and response, mass delivery of immunizations, linkages with animal health systems and healthcare.

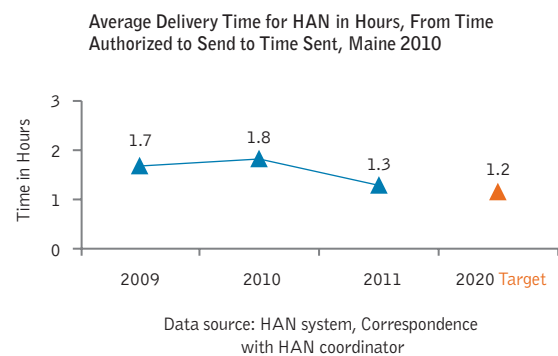
- Support to disease investigation and laboratory capability to identify and respond to disease agents, toxins, and other health threats found in the environment, food, water or other substances.
- Maintenance of capacity to receive, distribute and dispense assets from the federal Strategic National Stockpile. This includes large quantities of medication, vaccine and medical supplies to supplement state and local assets in a public health emergency.
- Maintenance of communications systems to alert partners about public health events, to assess real-time hospital bed capacity and to share information with key responders at all levels.
- Planning for healthcare facilitated “alternate care sites” for medical care during local or statewide public health emergencies.
- Medical Reserve Corps units and other volunteer teams in that will augment medical care during a large-scale emergency.
- Systems to assure healthcare organizations have equipment and training necessary to respond to a wide spectrum of public health emergencies, such as: decontamination facilities and training for hospital staff, personal protective equipment, radiation detectors, annual Incident Command Training, and continuity planning exercises.
- Contributions to community resiliency for all including vulnerable populations.

Healthy Maine 2020 Objectives

1. Reduce the time to necessary to activate designated personnel in response to a public health emergency via the Health Alert Network

The Maine CDC disseminates important messages to the general public as well as to public health and healthcare officials through the Maine Health Alert Network (MaineHAN). There are two

distinct and separate processes that occur prior to disseminating the message. The first step in the process is to develop the message by a Maine CDC Subject Matter Expert. The Subject Matter Expert chosen to develop the message is dependent on the type of event or emergency that is occurring. For example, an Infectious Disease Epidemiologist may develop a message regarding an outbreak while our State Toxicologist may develop a message regarding arsenic in public or private water systems.



The second step in the process is the actual dissemination of the message using the MaineHAN operating system by Maine CDC Public Health Emergency Preparedness Staff (PHEP). This data table focuses on the second step in the process, which is the time it takes PHEP staff to format and send the message using the MaineHAN system once final approval is obtained by the Maine CDC Director or his or her designee.

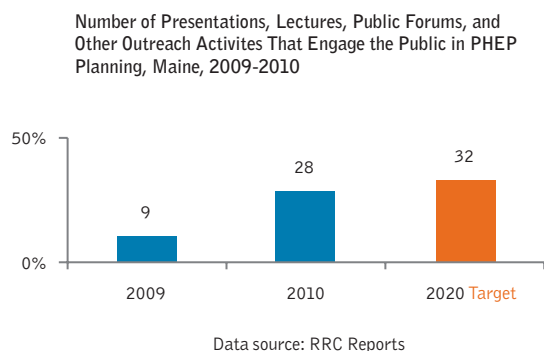
Reducing the time to disseminate messages is important. These messages are either a call to action for public health and healthcare emergency response professionals, or they provide critical information such as new clinical guidelines to physicians, medication recalls, laboratory testing, where to get help, and appropriate public health officials to contact. Providing timely and accurate information to the public allows for quicker mobilization, more efficient and effective responses and less misinformation.

Data is not consistently available for the time of initial recognition of the need for a HAN message, and therefore that measure is not included in this objective. The Healthy Maine 2020 goal is to reduce the number of hours needed to issue a HAN message to 1.2 hours.

2. Increase the frequency and number of outreach activities to the community through training and education about public health emergency preparedness

Engaging local officials in emergency preparedness planning activities helps communities prepare, respond, and recover from a public health emergency in a more efficient and effective manner. Communities with an All-Hazard Emergency Operation Plan will be far less likely to require state or federal assistance during a crisis.

There were nine outreach activities in 2009 and 28 in 2010. The Healthy Maine goal is to increase outreach activities to 32 events by 2020.



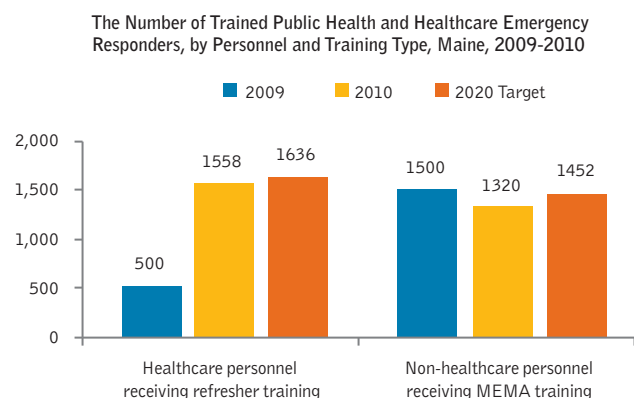
3. Increase the number of trained public health and healthcare emergency responders

Having a properly trained emergency preparedness workforce ensures that healthcare personnel are familiar with their hospital's incident command system and can adequately implement their Emergency Operations Plan. Healthcare personnel

receive initial and annual refresher trainings in many facets of emergency preparedness and response including: use of personal protective equipment; use of equipment to detect chemical, biological, or radiological agents; patient decontamination and evacuation; and deploying medical countermeasures quickly and efficiently.

A trained and competent healthcare workforce is just one facet of the overall response efforts. It is also important that non-healthcare personnel such as municipal leaders, local and county emergency management officials, school administrators and private citizens also receive emergency preparedness training. These trainings provide a response framework by which federal, state, and local organizations can work together under one unified system.

The data show an increase in the number of trainings for healthcare personnel from 500 in 2009 to 1,558 in 2010. The Healthy Maine goal is 1,636 by 2020. There was a decrease in non-healthcare personnel trainings from 1,500 in 2009 to 1,320 in 2010. The Healthy Maine goal is 1,452 trainings by 2020.



Data source: RRC course rosters / EOY Maine CDC ASPR report

4. (Developmental) Reduce the unnecessary surge in hospital emergency departments during an event with public health significance.

During a public health emergency, the number of people seeking medical care in hospital emergency departments may overwhelm the capacity of emergency departments (EDs). Public messaging and the activation of hospital-based alternate care sites may help reduce surge during a public health emergency by diverting patients with non-life threatening conditions to these sites so those with true health emergencies are able to access the care they need. Measuring the surge in ED demand during events may provide insight into the contributions of the “worried well” on ED resources and contribute to the management of flow within Maine’s EDs during emergencies.

Unfortunately, measuring surge is a complicated process. There is, as yet, no state of national standardized measure and individual hospitals may use different algorithms for this measurement. Non-emergency department fluctuations in ED use, geographical differences in access to EDs and other health care, variation in the demand for ED in different types of public health emergencies, geographical variation in the effects of a public health emergency and other factors also confound potential measures. During the next 12 months, research and discussion with stakeholders will continue in order to define this measure, identify baseline data and set a 2020 target.

Methodology notes

1. Reduce the time to necessary to activate designated personnel in response to a public health emergency via the Health Alert Network

Measure: The length of time between authorization of a Health Alert network (HAN) message and dissemination of the HAN message.

Numerator: Total elapsed time (number of hours between final notification to Maine CDC Public Health Emergency Preparedness staff that a HAN is ready to be sent to the time of delivery of HAN) for all health alerts or advisories issued.

Denominator: Number of health alerts or advisories issued.

Target setting method: 10% reduction.

Other notes: The low number of health alerts issued in some years makes this measure less stable. Missing data in 2009 for some health advisories makes this data less reliable.

2. Increase the frequency and number of outreach activities to the community through training and education about public health emergency preparedness

Measure: Number of presentations, lectures, public forums, and other outreach activities that engage the public in Public Health Emergency Preparedness planning.

Numerator: Total number of outreach activities in a calendar year. (There is no denominator.)

Target setting method: 15% increase.

Other notes: Activities supported by Maine CDC Public Health Emergency Preparedness are reported to Maine CDC Public Health Emergency Preparedness and compiled in Hospital Preparedness Planning and CDC quarterly reports, and also Maine Emergency Management Agency reports.

3. Increase the number of trained public health and healthcare emergency responders

SUB-OBJECTIVES

3a. Increase the number of healthcare personnel trained to respond to public health emergencies.

Measure: Number of existing healthcare and public health staff who receive annual refresher training per National Incidence Management System (NIMS) requirements.

Numerator: Number of existing healthcare and public health staff who receive annual refresher training per NIMS requirements.

Target setting method: 5% increase in the number of trained healthcare responders. Since it is anticipated that the number of healthcare staff that requires training will increase only slightly, this target is lower than others.

3b. Increase the number of non-healthcare personnel trained to respond to public health emergencies.

Measure: Number of non-healthcare personnel who attend NIMS Incident Command System (ICS) refresher training courses in a calendar year. (There is no denominator.)

Numerator: Number of non-healthcare personnel who attend Maine Emergency Management Agency training courses in the year. (There is no denominator.)

Target setting method: 10% increase in the number of non-healthcare staff will be trained. Since more staff attrition occurs in the non-healthcare fields, it is anticipated that the number of those requiring training to increase over time.

Other notes: Does not include on-line training, unless this is reported to Maine CDC Public Health Emergency Preparedness.

4. (Developmental) Reduce the unnecessary surge in hospital emergency departments during an event with public health significance

Measure: As yet, not determined. Research regarding a possible state-wide measure for this objective is still on-going.

Other notes: This is not a Healthy People 2020 objective. Most of the Healthy People 2020 Public Health Emergency Preparedness indicators are developmental. The Healthy Maine 2020 Public Health Emergency Preparedness indicators are aligned with federal emergency preparedness funding requirements.

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Public Health Infrastructure and Health Information Technology

Background:

The Healthy People 2020 guidelines list the three key components of the Public Health Infrastructure as:¹

1. A capable and qualified workforce.
2. Up-to-date data and information systems.
3. Public health agencies capable of assessing and responding to public health needs.

Health Equity Highlight: Tribal Health and Health Care

Native Americans experience higher rates of diabetes and chronic liver disease and higher death rates due to unintentional injuries than other populations.²

Both the State of Maine and tribal governments have specific responsibilities to improve the health of Native Americans who reside in Maine. As both governments work together toward achieving this goal, there is a continued recognition of the unique government-to-government relationship that exists between the Tribes and the State. Our infrastructure development takes this into account—the Tribes have their own Tribal Public Health District, staffed by the Tribes. Maine CDC's role is to provide the Tribal District with technical assistance and coordination, but not oversight.

Items 1 and 3 refer to organizations and people. Item 2 refers to technological aspects of a public health system that present unique challenges, related to equipment and external conditions. In recognition of this special feature of health information technology (HIT), Healthy People 2020 also devotes an entire separate section to this aspect of public health. Our Healthy Maine 2020 document combines the topics of HIT and Public Health Infrastructure in recognition of their intertwined nature and their importance to

achieving the goal of public health accreditation for each level of Maine's emerging public health system.

Maine is a large rural state, with many small towns and limited county government. Much of public health delivery across the state is coordinated through the state government public health agency, the Maine CDC. Only two local communities include full-service traditional health departments, Bangor and Portland.

Maine recently established nine Local Public Health Districts to serve the entire state. These districts coordinate services and supplies to respond to public health needs in their particular district.³ Eight of these are based on county boundaries and coordinate for those geographic areas, while the ninth district comprises the tribal health systems. The Maine CDC employs a District Liaison in each of the eight geographic public health districts. The Liaisons work with their District Coordinating Committee (groups comprised of local public health partner representatives) to meet the needs of their district. Two Tribal Health Liaisons currently represent four tribes in the state: the Passamaquoddy Tribe of Maine, the Penobscot Tribe of Maine, the Houlton Band of the Maliseet Indians of Maine, and the Aroostook Band of Micmac Indians. Tribal Liaisons work with local public health agencies and public health partners.³

In addition to Maine CDC staff located in each district for epidemiology, public health nursing, health inspection, and drinking water inspection, many public health services are provided through contracts with local agencies and organizations. The Healthy Maine Partnerships, local community coalitions funded through Maine's tobacco settlement funds, deliver chronic disease prevention programs and administer and distribute other program funds. Each municipality also has a

local health officer who reports to the Maine CDC regarding communicable diseases and examines complaints of public health threats. The major health care organizations also fulfill some public health functions, sometimes with state funding, and other times through federal or local funding. These local and regional public health entities and structures continue to evolve to better meet the public health needs of the state.

Maine faces technological challenges due to incomplete availability of cell phone and cable services, especially in very remote areas, including tribal lands. For example, The ConnectME Authority has noted that while basic broadband services generally have good coverage, many areas do not meet the preferred level of speed for conducting business, and therefore current service levels do not allow Mainers to realize the full advantages of broadband access.⁴ In addition, an older population profile and the number of small businesses with fewer than five employees are both factors that generally decrease the use of broadband.⁴ Despite this, Maine has been a national leader in adoption of electronic health records (EHR) technology and use of health information exchange. In 2010 a statewide survey showed over 80% of hospitals have EHR systems functioning in over 90% of areas, and 49% of dental practices and 43% of ambulatory sites have EHRs in operation.

The Public Health Response

The Public Health Accreditation Board's voluntary national accreditation process measures the competencies of agencies and their personnel across the ten essential public health services, works to standardize the quality of services Americans can expect from their state and local agencies.⁶ Departments that achieve accreditation certify to the people of their service areas that they consistently deliver the highest quality services vital to protecting and sustaining population health.

Health care reform is another one force bringing changes to public health infrastructure standards and also brings together health care providers and public health. The meaningful use of electronic health data bridges the work of these partners. The American Recovery and Reinvestment Act of 2009 specifies three main components of Meaningful Use:⁷

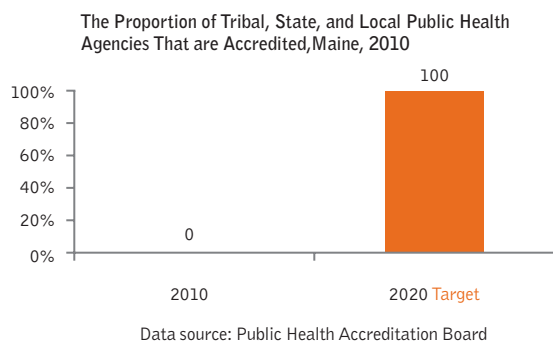
- The use of a certified EHR in a meaningful manner, such as e-prescribing.
- The use of certified EHR technology for electronic exchange of health information to improve quality of health care.
- The use of certified EHR technology to submit clinical quality and other measures.

When providers engage in “meaningful use,” they are using certified EHR technology to perform functions that are recognized as appropriate and doing so in a manner consistent with the intentions of their design. The meaningful use of EHR facilitates optimal planning and response to public health needs because it provides timely information about actions taken (e.g. drugs prescribed, immunizations given), which can then be measured against quality expectations and used to determine supplies needed for future responses. The U.S. Centers for Disease Control and Prevention endorses this approach to measuring the soundness of health information technology as used for public health purposes.⁸

HM2020 Objectives

1. Increase the proportion of Tribal, State, and local public health agencies that are accredited

Public health accreditation serves to document whether an agency is adequately providing the ten essential public health services to the population under its jurisdiction, and is a measure of the quality of services provided.

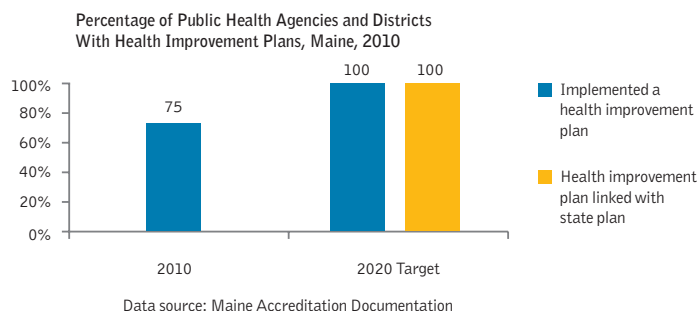


Public health accreditation started in 2011. No public health agencies were accredited at the beginning of this decade. Reaching the goal of 100% accreditation will be dependent on the state and local resources available to develop full public health services in each jurisdiction.

2. Increase the proportion of Tribal, State, and local public health agencies that have implemented a health improvement plan and increase the proportion of local health jurisdictions that have implemented a health improvement plan linked with their State plan

A health improvement plan is a data-driven, long-term, systematic, collaborative and inclusive plan that sets the direction for both the public health agencies and their partners. An effective plan ensures that needs are clearly identified and resources are used well.

Although there is currently no Tribal public health agency, the Tribal public health district will be



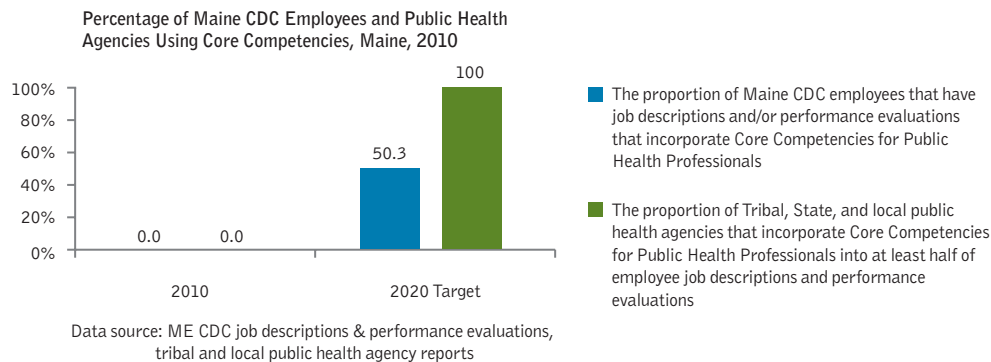
fulfilling these functions. While the other Public Health Districts may not fill all functions of a local public health agency, they have been charged with developing and implementing district public health improvement plans. Currently all district public health improvement plans are in place, and one local public health agency has a health improvement plan. The Healthy Maine 2020 goal is for 100% of public health districts and local public agencies to have health improvement plans.

Linkages between the health improvement plans at the local, tribal and district levels and the State Health Improvement Plan (SHIP) demonstrate that that the state plan is responsive to local needs and that the local plans have considered state priorities and information. Since there is no SHIP at this time, there are also no linkages. However, this graph does not currently reflect the coordination that does occur.

3. Increase the proportion of Tribal, State, and local public health agencies that incorporate Core Competencies for Public Health Professionals into job descriptions and performance evaluations

Using nationally established Core Competencies in job descriptions is one way to ensure a competent and qualified workforce and to design training and professional development that appropriately targets gaps. In the past, this practice was not widely used by the Maine CDC or other public health agencies, however the value of core competencies has been increasingly recognized and discussed among public health leaders and partners.

In 2010 no Maine CDC employees had job descriptions and/or performance evaluations that incorporated Core Competencies for Public Health Professionals. The Healthy Maine 2020 goal is 50%. Similarly, in that same year no Tribal, state, or local public health agencies incorporated Core Competencies for Public Health Professionals, and the Healthy Maine 2020 goal is 100%.



4. Increase the proportion of Tribal, State, and local public health agencies that have implemented an agency-wide quality improvement process

Quality improvement is a critical part of effective performance management and an agency-wide QI process is a requirement for public health accreditation.

Before the focus on public health accreditation and HM2020, QI in public health at an agency level had not been a focus of measurement, therefore trend data is not available. In 2010 25% of public health agencies had implemented agency-wide QI processes; the Healthy Maine 2020 goal is 100%.

5. Increase the proportion of qualified providers that use certified health information technology (HIT) to achieve meaningful use

The meaningful use of electronic medical records can improve quality of care and coordination of care. CMS criteria includes several measures that make a connection between health care and public health data, which encourages health care providers to participate in public health systems and registries that help determine public health needs. These include:

1. Performed at least one test of certified EHR technology's capacity to submit electronic data to immunization registries and follow up submission if the test is successful (unless none of the immunization registries to which the eligible provider or eligible hospital submits such information have the capacity to receive the information electronically).
2. Performed at least one test of certified EHR technology's capacity to submit electronic data on reportable lab results to public health agencies and follow-up submission if the test is successful (unless none of the public health agencies to which an eligible hospital submits such information have the capacity to receive the information electronically).
3. Performed at least one test of certified EHR technology's capacity to submit electronic syndromic surveillance data to public health agencies and follow-up submission if the test is successful (unless none of the public health agencies to which an eligible provider or eligible hospital submits such information have the capacity to receive the information electronically).

In addition to these specific public health oriented measures, the meaningful use of EHR can improve patient care and coordination with public health approaches to better health.

Meaningful use data will begin to be collected in 2011, and thus no data is available for this measure at this time.

Methodology notes

1. Increase the proportion of Tribal, State, and local public health agencies that are accredited

Measure: The proportion of Tribal, State, and local public health agencies that are accredited.

Numerator: Number of public health agencies who are accredited by PHAB.

Denominator: All eligible public health agencies in Maine, including local public health agencies recognized by the state (currently 2), the Tribal Public Health District and Maine CDC.

Target setting method: complete achievement by 2020.

Other notes: This is a Healthy People 2020 objective, and is currently developmental. The Public Health Accreditation Board (PHAB) will be tracking accreditation, and this data will be accessed either from the public health agencies in the state or via PHAB.

2. Increase the proportion of Tribal, State, and local public health agencies that have implemented a health improvement plan and increase the proportion of local health jurisdictions that have implemented a health improvement plan linked with their State plan

SUB-OBJECTIVES

2a. Increase the proportion of Tribal, State, and local public health agencies that have implemented a health improvement plan.

Measure: Proportion of state and local public health agencies and public health districts (including the Tribal PH District) that have implemented a health improvement plan.

Numerator: Number of current health improvement plans completed in the last 2 years.

Denominator: Number of public health districts plus the number of state-recognized local public health agencies plus Maine CDC.

Data source: Accreditation documentation for local and state health agencies, as well as district health improvement plans.

2b. Increase the proportion of Tribal and local public health agencies that have implemented a health improvement plan linked with their State plan.

Measure: Proportion of PH District and local health agency health improvement plans that are linked with the state health improvement plan.

Numerator: Number of PH District and local health agency health improvement plans that are linked with the state health improvement plan.

Denominators: Number of public health districts + number of state-recognized local public health agencies. (Maine CDC is not included, since the others will link to Maine CDC, but Maine CDC will have a role in documenting this linkage.)

Data source: Linkages will be measured via reviewing both the SHIP and the district and local health improvement plans.

Target setting method: complete achievement by 2020.

Other notes: This is a Healthy People 2020 objective, and is currently developmental. Therefore, the HM2020 data source may differ.

3. Increase the proportion of Tribal, State, and local public health agencies that incorporate Core Competencies for Public Health Professionals into job descriptions and performance evaluations

SUB-OBJECTIVES

- 3a. Increase the proportion Maine CDC employees who have job descriptions or performance evaluations that incorporate Core Competencies for Public Health Professionals.

Measure: The proportion of Maine CDC employees that have job descriptions and/or performance evaluations that incorporate Core Competencies for Public Health Professionals.

Numerator: The number of Maine CDC job descriptions and/or performance evaluations that incorporate Core Competencies for Public Health Professionals.

Denominator: Total number of Maine CDC staff.

Target Setting method: complete achievement by 2020.

Other notes: HP2020 is developmental at the state level and has identified ASTHO as a potential data source. They are likely to collect this via a survey in a summary fashion, and Maine CDC will need to collect the data to answer the ASTHO survey. Data collection methodology is yet to be determined. Options include extracting information from performance evaluations or via job descriptions may be used instead.

- 3b. Increase the proportion of Tribal, State, and local public health agencies that incorporate Core Competencies for Public Health Professionals into job descriptions and performance evaluations.

Measures: The proportion of Tribal, State, and local public health agencies that incorporate Core Competencies for Public Health Professionals into at least half of employee job descriptions and performance evaluations.

Numerator: The number of Tribal, State, and local public health agencies that incorporate Core Competencies for Public Health Professionals into at least half of employee job descriptions and performance evaluations.

Denominator: Local public health agencies recognized by the state, the Tribal Public Health District and Maine CDC.

Target setting method: complete achievement by 2020.

Other notes: Since District public health staff are state employees, the public health districts (other than the Tribal District) are part of MCDC. However, tribal liaisons are tribal employees and thus counted separately. HP2020 has sub-objectives for tribal (developmental) and local (NACCHO), using different data sources. Data will be gathered from the identified agencies.

4. Increase the proportion of Tribal, State, and local public health agencies that have implemented an agency-wide quality improvement process

Measure: The proportion of Tribal, State, and local public health agencies that have implemented an agency-wide quality improvement process.

Numerator: Number of public health agencies that have an agency-wide quality improvement plan.

Denominator: Local public health agencies recognized by the state, the Tribal Public Health District and Maine CDC.

Target setting method: complete achievement by 2020.

Other notes: Data sources may differ by agency since HP2020 has sub-objectives and for state and tribal public health agencies, these measures are developmental for HP2020 and data collection for Maine has yet to be determined. Baseline data was collected via interview with key staff in each agency.

5. Increase the proportion of qualified providers that use certified health information technology (HIT) to achieve meaningful use

SUB-OBJECTIVES

- 5a. Increase the proportion of hospitals that meet meaningful use criteria (stage 1) for use of certified technology established by CMS.

Measure: The proportion of hospitals that meet meaningful use criteria (stage 1) for use of certified technology established by CMS.

Numerator: Number of hospitals that receive “meaningful use”(stage 1) incentive payments for use of certified technology.

Denominators: Number of non-state hospitals in Maine.

Data Source: CMS (numerator), count of non-state hospitals (denominator).

- 5b. Increase the proportion of eligible providers that meet meaningful use criteria established by CMS.

Measure: The proportion of eligible providers who meet meaningful use criteria (stage 1) for use of certified technology established by CMS.

Numerators: Number of providers that receive “meaningful use” (stage 1) for use of certified technology incentives.

Denominators: Licensed qualified providers residing in Maine eligible for CMS incentive payments from boards of licensing.

Data Source: CMS (numerator), Office of the State Coordinator for HIT (denominator).

Target Setting method: none yet.

Other notes: This is a developmental Healthy People 2020 objective. Meaningful use data will begin to be collected in 2011, and thus no data is available for this measure at this time, and targets have not been set. Maine is defining the denominator based on data available in Maine, allowing us to calculate a proportion. As it is expected that the criteria to meet meaningful use definitions may change after

2015, this measure may need to be re-visited at that time. Some providers may not be eligible for meaningful use incentives based on the number of Maine Care clients they have.

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Reproductive Health

Background

Infant survival, as well as normal growth and development, depend on positive birth conditions and healthy families. In turn, infant and child well-being influence the health of the next generation and can help predict future public health challenges for families, communities and the health care system.¹ The promotion of safe and healthy childbirth and infancy can produce enormous benefits for infants, children, mothers, and society.

Reproductive health is a key measure of the ability to access effective healthcare systems and social capacity for poverty reduction.² For women of childbearing age worldwide, a third of their total disease burden is attributable to disability and death resulting from reproductive health problems.² Pregnancies sustained by adequate prenatal care and proper nutrition result in lower rates of preterm births, higher rates of normal birth-weight infants, and increased likelihood of normal brain development and capacity to engage in social relationships.⁴ Low birth weights are associated with increased risk of chronic diseases (such as asthma and cardiovascular disease) and developmental delays later in life.⁵ Very low birth weight, can lead to costly hospital admissions and stays in neonatal intensive care units. Nationally, one quarter of pediatric costs are associated with premature births.⁶

The Public Health Response

In the past decade, Maine has benefited from increased collaboration between programs that support aspects of reproductive health. Educational efforts have impacted teen pregnancy and the use of alcohol and tobacco in young people, social service programs such as home visiting better prepare new families, and collaboration between public safety agencies, social services, women's advocacy organizations have addressed violence against women.

Health Equity Highlight: Racial and Ethnic Minorities

Disparities in reproductive health based on the race and/or ethnicity of the mother are well documented in the United States. Nationally, non-Hispanic blacks and Native Americans have an infant mortality rates.^{2,4} times and 1.6 times higher than non-Hispanic whites, respectively.³ The overall infant mortality rates for Maine are low enough that reliable Maine specific data on racial and ethnic disparities in infant mortality are not available. However, there are documented disparities in some of the factors known to contribute to infant mortality and other poor birth outcomes:

In Maine, Black, American Indian, and Asian women are less likely to receive prenatal care in the first trimester compared to White women. Based on data from 2005-2009, 88% of White women received prenatal care in the first trimester compared to 77.3% of Black women and 81.3% of American Indian women. During this same time period, Hispanic women were also less likely than non-Hispanic women to receive prenatal care in the first trimester (81.9 vs. 87.8 respectively).⁷

Teen births rates in Maine are almost two times higher among American Indian and Black females compared to Whites. Between 2005 and 2009, the birth rates among American Indian and Black females aged 15-19 years were 48.7 and 41.2 per 1,000 (respectively) compared to 25.1 per 1,000 among White females. During this same time period, Asian adolescent females had a significantly lower birth rate (20.3 per 1,000) and there was no statistically significant difference between the adolescent birth rates of Hispanic and non-Hispanic females (28.7 vs 25.0 per 1,000, respectively).⁷

One area of reproductive health with potential for significant public health impact if adequately addressed is unintended pregnancy. Efforts that promote intentional pregnancies may increase the number of healthy births, due in part to increased prenatal care, and healthier behaviors during pregnancy. Strategies to improve unintended pregnancies include comprehensive sexuality education, increased access to contraception, preconception healthcare, and reduced violence in women's lives.

Regardless of the mother's initial intentions, promotion of and access to prenatal care, healthy choices during pregnancy, such as smoking cessation, caffeine and alcohol restriction, taking a folic acid supplement prior to conception which decreases the risk of neural tube defects, and breastfeeding can improve birth outcomes.

Healthy Maine 2020 Objectives

1. Reduce preterm births

Preterm birth (less 37 weeks gestation) is associated with infant illness, disability and death.⁸ It is the leading cause of deaths not associated with birth defects in the first four weeks of life.¹ While great advances have been made in the treatment of babies born prematurely, the causes of prematurity still are not fully known. Nationally up to 40% of

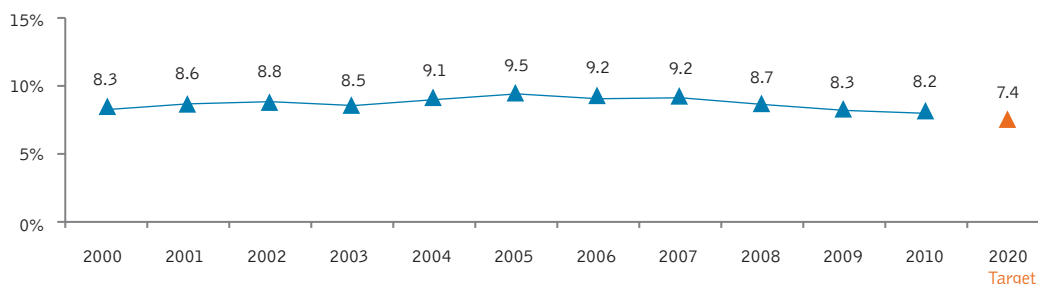
preterm births have no known cause. Women at greatest risk of preterm birth include a) women with a previous preterm birth, b) multiple gestation pregnancies, and c) women with uterine or cervical abnormalities. Nationally more than 70 percent of preterm births occur between 34 and 36 weeks gestation.

The percentage of Maine infants born preterm increased significantly between 2000 and 2005, but then decreased significantly (back to 2000 levels) from 2006 to 2010. In 2010, 8.2% of births were preterm; the Healthy Maine 2020 goal is 7.4%.

2. Increase the proportion of live births that are the result of an intended pregnancy

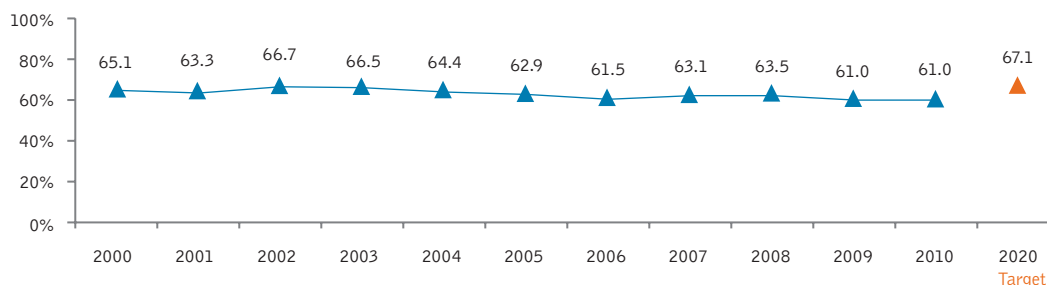
The consequences of unintended pregnancy (pregnancy that is either mistimed or unwanted at the time of conception) include increased risk of inadequate prenatal care, increased risk of smoking and alcohol and drug use during pregnancy, poor birth outcomes, postpartum depression, and child maltreatment.⁹ Children born of intended pregnancies are less likely to suffer poor physical and mental health later in life. The relationship between mother and child is more likely to be supportive and nurturing when a pregnancy is intended. Unintended pregnancies generate many costs, both social and monetary.¹⁰

Percent of Preterm Live Births (Gestational Age <37 Weeks), Maine 2000-2010



Data source: Birth and death certificates, Maine CDC Data, Research, and Vital Statistics

Proportion of Live Births in Which Pregnancy Was Intended, Maine 2000-2010



Data source: Maine Pregnancy Risk Assessment Monitoring System

There was no consistent trend between 2000 and 2010 in the percentage of live births in which the pregnancy was intended. In 2010, 61% of births were intended; the Healthy Maine 2020 goal is 67.1%.

3. Reduce the rate of infant death

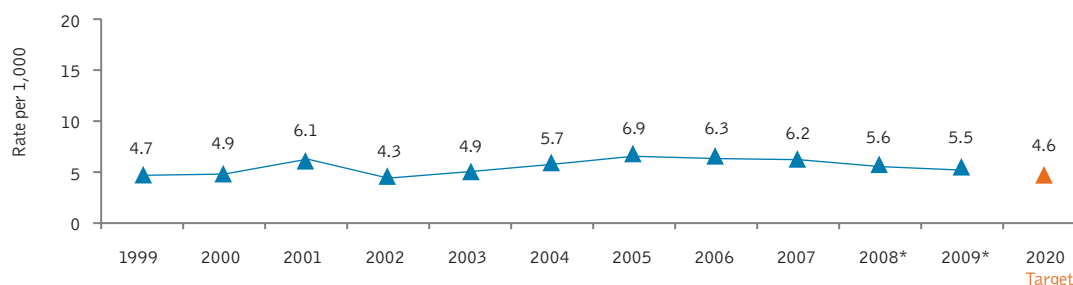
Infant mortality is a crucial indicator of a population's health. It reflects Maine's overall maternal health as well as the accessibility and quality of its primary health care resources available to pregnant women and babies.¹ The infant mortality rate in Maine has not changed significantly in the past 10 years. It was 5.5% in 2009; the Healthy Maine 2020 goal is 4.6%.

4. Increase the proportion of pregnant women who receive early and adequate prenatal care

Prenatal care can help reduce perinatal illness, disability, and death. Prenatal care should start early and continue on the recommended schedule throughout pregnancy.¹ The American Congress of Obstetricians and Gynecologists recommends prenatal care begin in the first month of pregnancy, with one visit per month through 28 weeks, one visit every 2 weeks through 36 weeks, and one visit per week thereafter.¹¹

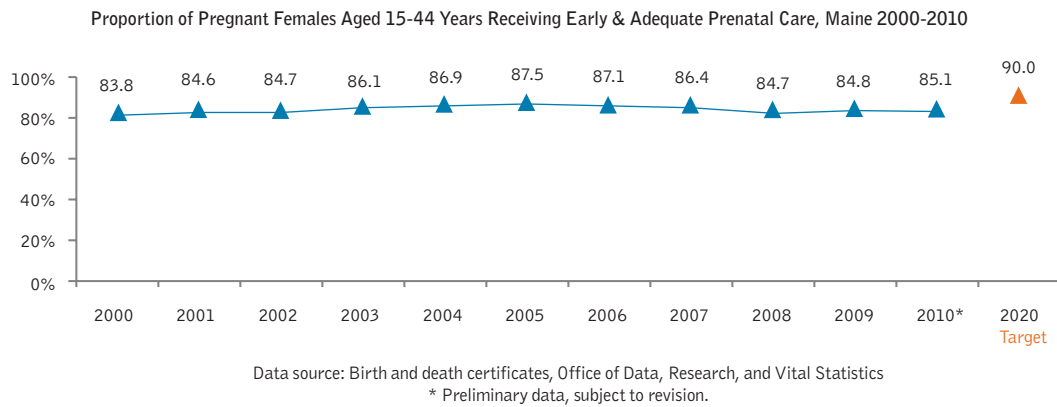
The proportion of pregnant women who receive early and adequate prenatal care increased significantly between 2000 and 2005, but then

Infant Mortality Rate per 1,000 Live Births, Maine 1999-2009



Data source: Birth and death certificates, Maine CDC Data, Research, and Vital Statistics

* Preliminary data, subject to revision.



declined significantly between 2005 and 2010. Approximately 85% of pregnant females received early and adequate care in 2010; the Healthy Maine 2020 goal is 90%.

5. Increase abstinence from alcohol, cigarettes, and illicit drugs among pregnant women

Alcohol use during pregnancy can cause miscarriage, still birth, or fetal alcohol spectrum disorders (a range of lifelong disorders that can include behaviors or characteristics such as abnormal facial features, learning disabilities, poor judgment and reasoning skills, and heart, kidney or bone problems). There is no known safe amount of alcohol or safe time to drink alcohol during pregnancy.¹²

Smoking during pregnancy is associated with health problems for both babies and mothers, including pregnancy complications, still birth, low birth weight, premature birth, and sudden infant death syndrome.¹³

The percentage of women who abstained from alcohol use or cigarette smoking during the last 3 months of pregnancy did not change significantly between 2000 and 2010. In 2010 approximately 94% of women abstained from alcohol during the last three months of pregnancy, and 82% abstained from smoking; the Healthy Maine 2020 goals are 99% and 90%, respectively.



Data source: Maine Pregnancy Risk Assessment Monitoring System

Methodology notes

1. Reduce preterm births

Measure: Percent of resident live births for which clinical estimate of gestational age is less than 37 weeks.

Numerator: Number of resident live births for which clinical estimate of gestational age is 37 weeks.

Denominator: Number of resident live births.

Target-setting method: 10 percent improvement.

Other notes: This data include only Maine residents. The target is the same as HP2020.

2. Increase the proportion of live births that are the result of an intended pregnancy

Measure: Percent of live births for which the pregnancy was intended

Numerator: Number of respondents who answer “I wanted to be pregnant sooner” or “I wanted to be pregnant then” to “Thinking back to just before you got pregnant with your new baby, how did you feel about becoming pregnant?”

Denominator: Number of respondents who answer “I wanted to be pregnant sooner,” “I wanted to be pregnant then,” “I wanted to be pregnant later,” or “I didn’t want to be pregnant then or at any time in the future” to this question.

Target-setting method: The target was set as a 10 percent improvement.

Other notes: Data are weighted, so numerator and denominator are not shown. The Healthy Maine 2020 objective differs from the Healthy People 2020 objective, which is to “Increase the proportion of pregnancies that are intended”. State-level data are not available from the Healthy People 2020 data source. Maine data are from PRAMS, a survey of mothers who have had a recent live birth.

3. Reduce the rate of infant death

Measure: Infant mortality rate per 1,000 live births.

Numerator: Number of deaths of Maine residents for which age at death is <1 year, per 1,000 live births.

Denominator: Number of resident live births.

Target-setting method: Retained Healthy Maine 2010 target.

Other notes: Data are for Maine only residents only rate.

4. Increase the proportion of pregnant women who receive early and adequate prenatal care

Measure: Proportion of pregnant females aged 15-44 receiving adequate prenatal care by the Adequacy of Prenatal Care Utilization Index (APNCU).

Numerator: Number of resident live births for which mother started prenatal care during 1st trimester and meet the definition of adequate prenatal as defined by the APNCU.

Denominator: Number of resident live births.

Target-setting method: This objective is the same as a Healthy People 2020 objective, and the Healthy Maine 2020 target is the same as the HP2020 target.

Other notes: Adequate prenatal care is defined by the Adequacy of Prenatal Care Utilization as the Observed to Expected Prenatal Visits Greater Than or Equal to 80 Percent of the Kotelchuck Index. Data are for Maine residents only, women aged 15-44.

5. Increase abstinence from alcohol and cigarettes among pregnant women

SUB-OBJECTIVES

5a. Increase abstinence from alcohol among pregnant women

Measure: Percent of pregnant women who do not drink any alcohol during the last 3 months of pregnancy

Numerator: Number of respondents who answer “I didn’t drink then” to “In the last 3 months of your pregnancy, how many alcoholic drinks did you have in an average week?”

Denominator: Number of respondents who answer “I didn’t drink then” or <1-14+ to “In the last 3 months of your pregnancy, how many alcoholic drinks did you have in an average week?”

Target-setting method: 5% improvement.

Other notes: This objective is measured differently in Healthy Maine 2020 than in Healthy People 2020 due to the use of different data sources. State-level data are not available from the Healthy People 2020 data source, so Maine data are taken instead from the Pregnancy Risk Assessment Monitoring System (PRAMS). As such, the Healthy Maine 2020 measure is defined as abstaining from alcohol during the last 3 months of pregnancy and does not have an age restriction, while the corresponding Healthy People 2020 measure is defined as abstaining from alcohol use during the past month among 15-44 year old pregnant women.

5b. Increase abstinence from cigarette smoking among pregnant women

Measure: Percent of pregnant women who do not smoke any cigarettes during the last 3 months of pregnancy

Numerator: Number of respondents who answer no to “Have you smoked any cigarettes in the past 2 years?” plus # of respondents who answer yes

to “Have you smoked any cigarettes in the past 2 years?” and answer “I didn’t smoke then” to “In the last 3 months of your pregnancy, how many cigarettes did you smoke on an average day?”

Denominator: Number of respondents who answer no to the last 2 years question plus # of respondents who answer yes to the last 2 years question and answer “I didn’t smoke then” or <1-14+ to the last 3 months of pregnancy question

Target-setting method: 10 percent improvement

Other notes: The 2000-2003 question is slightly different from question in 2004 and after. 2000-2003 : “In the last 3 months of your pregnancy, how many cigarettes or packs of cigarettes did you smoke on an average day?”; 2004 and after: “In the last 3 months of your pregnancy how many cigarettes did you smoke on an average day?” This objective is measured differently in Healthy Maine 2020 than in Healthy People 2020 due to the use of different data sources. Healthy People 2020 uses birth certificates in the National Vital Statistics System and measures abstinence from cigarette smoking throughout pregnancy. Maine data are taken instead from the Pregnancy Risk Assessment Monitoring System, which measures abstinence from cigarette smoking during the last 3 months of pregnancy. Healthy Maine 2020 uses PRAMS data for this objective both because of concerns about the validity of cigarette smoking data on birth certificates and the benefits of using a consistent data source for the abstinence from alcohol and cigarette smoking during pregnancy objectives.

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Substance Abuse

Background

The deliberate use and overuse of harmful substances has a serious impact on the quality of life of Maine people. As a result of substance abuse, the lives of Maine residents have been shorter and less safe. Substance abuse and dependence are preventable health risks.

Substance abuse leads to greater medical costs through an increase in related diseases and also adversely impacts productivity and increases rates of crime and violence.¹ In the case of tobacco use, the U.S. Surgeon General has concluded that smoking is the greatest cause of preventable premature deaths in the U.S.²

Maine has made progress in reducing substance abuse but continues to struggle with this important issue.

Health Equity Highlight: Adolescents

The use of tobacco, alcohol and other drugs by adolescents is associated with low school achievement, motor vehicle crashes and other adverse health effects, including long-term consequences related to chronic diseases, and long-term addiction.

- The proportion of youth beginning to drink alcohol before age 13 was 15% in 2007 but increased to 20% in 2009.³
- 12% of high school students reported in 2001 that they had used marijuana before age 13. In 2003 it decreased to below 10% and has remained below 10% through 2009.³
- The Healthy Maine 2010 target of 15% tobacco use among youth was met in the last decade but has shown signs of increasing again.⁴
- Tobacco companies have introduced new alternatives to cigarettes to appeal to younger users.⁵
- Approximately 80% of smokers start before the age of 18, making early prevention critical.⁶

The Public Health Response

The most effective, evidence-based approach to prevention of substance abuse is to use multiple strategies at multiple levels and start intervening with youth, who are more likely to become addicted.^{7,8} For those who need treatment, it is necessary that they recognize their need and are able to access adequate evidence-based treatment services.⁹ For substance abuse in general, these approaches are coordinated and funded through the Office of Substance Abuse.¹⁰ For tobacco use control, information on prevention strategies and programs is available through the Partnership for a Tobacco-Free Maine.¹¹

HM2020 Objectives

1. Reduce the past-year non-medical use of prescription drugs

There has been an increase in the misuse of prescription drugs, including stimulants and opiates over the past decade. Abuse of prescription drugs may lead to unintentional poisoning, overdose, addiction, automobile crashes, increased crime and other health issues.¹²

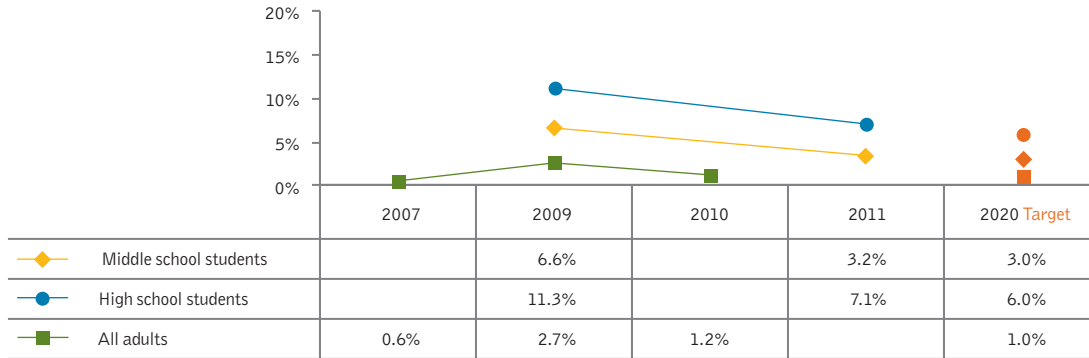
1a. Reduce the percentage of middle school students who report using prescription drugs without a doctor's prescription in the last 30 days.

Young people (middle and high school aged) are increasingly misusing available prescription drugs, including stimulants and opiates.¹² In 2011, approximately 3.2% of Maine middle school students said they had used prescription drugs not prescribed to them in the last 30 days; the Healthy Maine 2020 goal is 3%.

1b. Reduce the percentage of high school students who report using Rx drugs without a doctor's prescription in the last 30 days.

In 2011, approximately 7.1% of high school student said they had used prescription drugs not prescribed to them in the last 30 days; the Healthy Maine 2020 goal is 6%.

Proportion of Adolescents and Adults Who Reported Nonmedical Use of Prescription Drugs Within the Past 30 days, by Age, Maine, 2007-2011



Incidence of Late-Stage Colorectal Cancer and Female Breast Cancer, Maine, 2004-2008

1c. Reduce the percentage of adults, 18 and over, who report using Rx drugs without a doctor's prescription in the last 30 days.

In 2009, approximately 2.7%, and in 2010 approximately 1.2% of adults said they had used prescription drugs not prescribed to them in the last 30 days; the Healthy Maine 2020 goal is 1%. Within this group, adults 18-24 have the highest rate of use. In the 2009 BRFSS, 13.6% reported using prescription drugs without a doctor's prescription to get high in the last 30 days.

2. Increase the proportion of adolescents never using substances

2a. Increase the percentage of youth who reported never having an alcoholic drink in their life.

Youth who consume alcohol are more likely than adults to binge drink² and are more likely to develop alcohol dependence.

2b. Increase the percentage of youth who reported never using marijuana in their life.

Marijuana can be addictive and is associated with increased risk for respiratory illnesses and memory impairment. Even occasional use can have

consequences on learning and memory, muscle coordination, and mental health symptoms. Using marijuana earlier in life has been found to increase earlier use of other illicit drugs.¹²

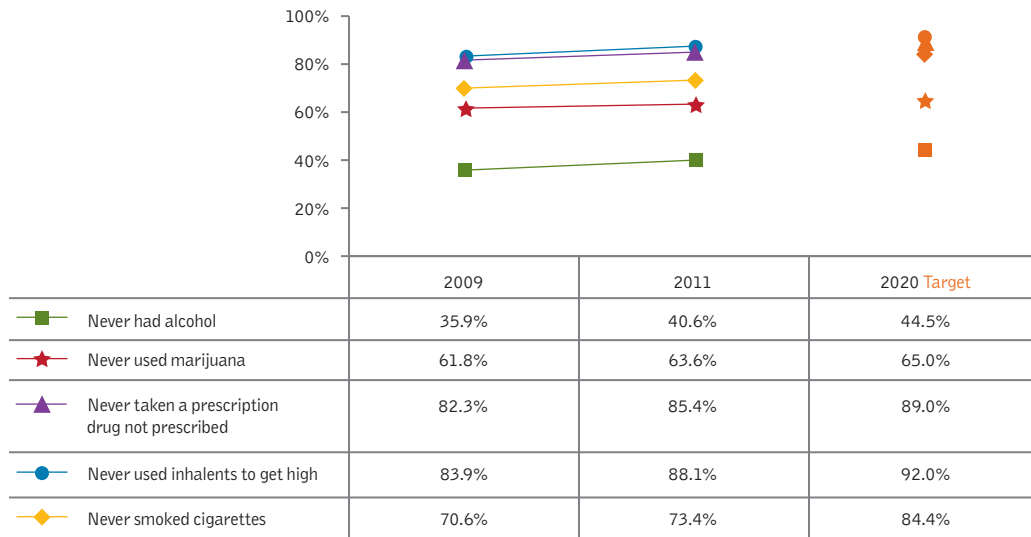
2c. Increase the percentage of youth who reported never taking a prescription not prescribed to them in their life.

The misuse of prescription drugs is leading to increases in addiction to prescription drugs and other consequences including overdose and unintentional poisonings.¹²

2d. Increase the percentage of youth who reported never inhaling to get high in their life.

Long-term consequences of chronic inhalant use has been associated with brain and other organ damage, impairment, and compromised immune system function. In some even a single use of inhaling to get high has resulted in death or brain damage.

Percent of Adolescents Never Using Substances, by Substance, Maine, 2009, 2011



Data source: MIYHS

2e. Increase the percentage of youth who reported never having smoked in their life.

Research shows that youth who begin smoking become addicted quicker than adults and are more likely to become chronic smokers.

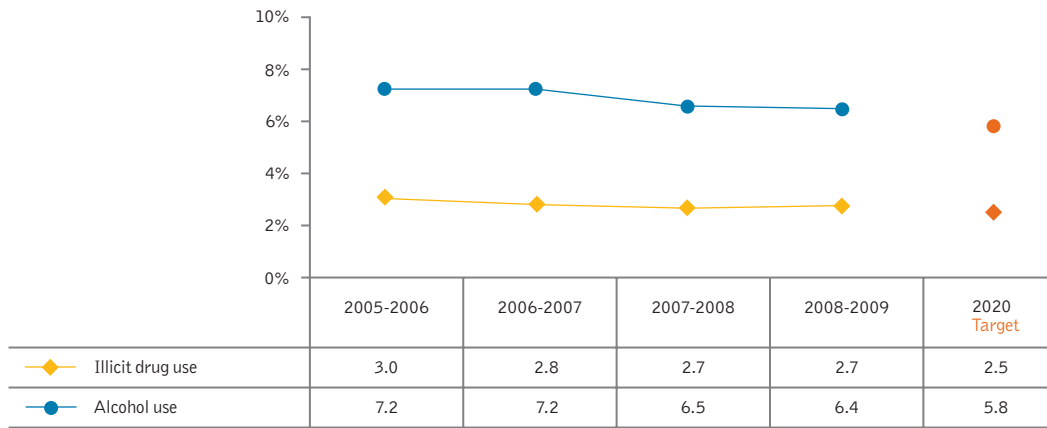
3. Increase the proportion of persons who need alcohol and/or illicit drug treatment and received specialty treatment for abuse or dependence in the past year

Treatment for substance abuse is effective in preventing further abuse and the many consequences of substance abuse. This indicator

helps to identify actual needs and the availability of treatment resources, as well as to raise awareness of the need for treatment services. The percentage of persons identified as needing treatment who did not get treatment for drug or alcohol abuse/dependence has decreased each year since 2005 (more people identified as needing treatment are getting treatment).

3a. Decrease the percentage who needed but did not receive treatment for illicit drug use

The Percentage of People Who Needed Alcohol or Illicit Drug Treatment but Did Not Receive Specialty Treatment for Abuse or Dependence in the Past Year, by Drug, Maine, 3-Year Average, 2005-2009



Data source: NSDUH

3b. Decrease the percentage who needed but did not receive treatment for alcohol use

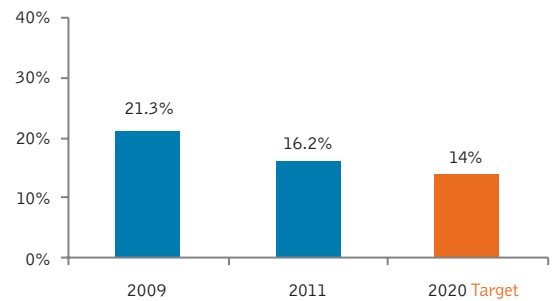
4. Reduce the proportion of persons engaging in binge drinking of alcoholic beverages

Binge drinking is considered to be a type of high risk drinking, since it increases the risk of many health and social related consequences. It has been linked to injuries, violence, crime, motor vehicle crashes, stroke, liver disease, addiction, and some types of cancer, blood alcohol poisoning, and death.¹²

4a. Decrease the percentage of high school adolescents who engage in binge drinking.

Youth are more likely than adults to binge drink when they consume alcohol.¹³ High risk alcohol use contributes to violence and motor vehicle crashes¹³ and can result in negative health consequences, including injuries and chronic disease. Youth who engage in high-risk drinking are also more likely to use drugs.¹⁴

Percent of High School Students Who Report Binge Drinking in Previous 30 Days, Maine, 2009, 2011



Data source: MIYHS

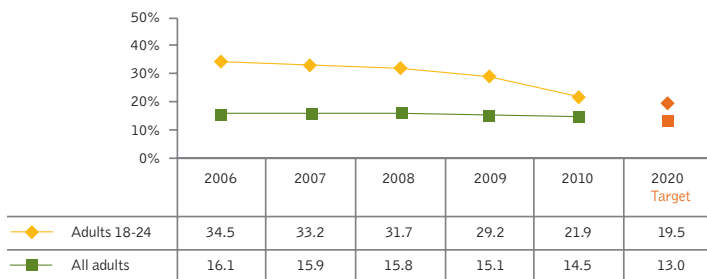
4b. Decrease the percentage of young adults 18-24 who engage in binge drinking

Among adults aged 18-24, the rate of binge drinking showed a sharp decline from 29% in 2009 to 22% in 2010. However, the rate for young adults aged 21-29 was much higher, at 37% in 2009 while the rate among adults aged 30 to 34 was 22%.

4c. Decrease the percentage of all adults who engage in binge drinking

Among all Maine adults, approximately 14.5% reported binge drinking in 2010. The age group with the largest numbers of binge drinkers is 18-34 year olds. While only 3.3% of Maine adults 65 years and older reported binge drinking,¹⁵ those who do binge drink do so more often (average of 5-6 times a month).¹⁶

Percent of Adults Who Engage in Binge Drinking, By Age, Maine, 2006-2010



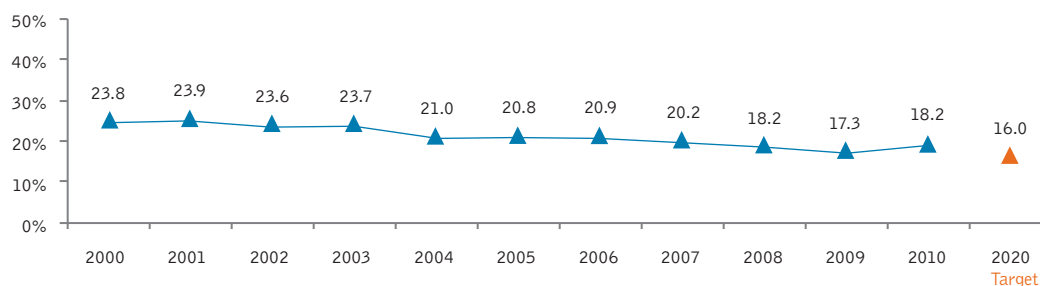
Data source: BRFSS

5. Reduce adult tobacco use

Tobacco use is the leading cause of preventable death in Maine. An estimated 2,200 Maine adults die each year due to their own smoking.¹⁷ For every person who dies from tobacco use, another 20 suffer from tobacco-related illness.¹⁸ In 2010, the smoking rate among Maine adults was 18%, about the same as the nationwide adult smoking rate. This measure is a National Healthy People 2020 Leading Health Indicator.

The prevalence of current smoking among Maine adults declined between 2001 and 2009, and the slight increase from 17.3% in 2009 to 18.2% in 2010 is not statistically significant. While the current trend is a decline, Behavioral Risk factor Surveillance System is changing to a new weighting method and inclusion of cell phone survey data, and preliminary results indicate that these new methods will result in an increase in the current smoking point estimates. For this reason, the Healthy Maine goals is a 10% decline rather than a more aggressive decline to set the target.

Percentage of Adults Who Are Current Smokers, Maine, 2000-2010



Data source: BRFSS

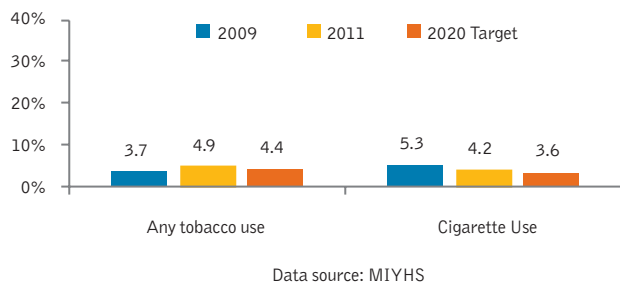
6. Reduce adolescent tobacco use

Tobacco use is the leading cause of preventable death in Maine. Historical Youth Risk Behavior Survey data show that use of any tobacco product declined significantly between 2001 and 2007 and has plateaued since then.

6a. Reduce the use of any tobacco products among 7th & 8th grade students

6b. Reduce cigarette smoking among 7th & 8th grade students

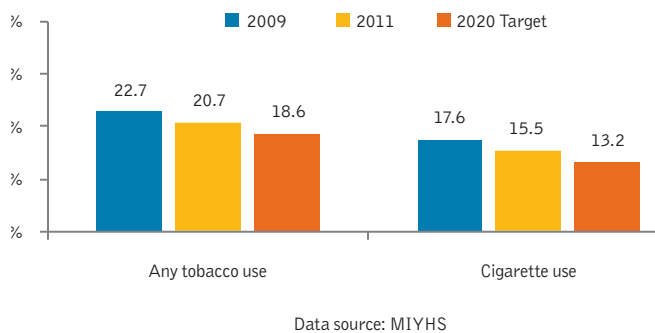
Percent of 7th & 8th Students Who Use Tobacco Products, Maine, 2009, 2011



6c. Reduce the use of any tobacco products among high school students

6d. Reduce cigarette smoking among high school students

Percent of High School Students Who Use Tobacco Products, Maine, 2009, 2011



Methodology

1. Reduce the past-year nonmedical use of prescription drugs

SUB-OBJECTIVES

- 1a. Reduce the percentage of middle school students who report that they have used prescription drug without a doctor's prescription in the last 30 days.
- 1b. Reduce the percentage of high school students who report that they have used prescription drug without a doctor's prescription in the last 30 days.

Measure for 1a&b: Percentages of middle & high school students who answered one or more times to the questions "During the past 30 days, how many times have you taken a prescription drug (such as OxyContin, Percocet, Vicodin, Adderall, Ritalin, or Xanax) not prescribed for you by a doctor?"

Numerator: Number of 7th & 8th graders, and high school students, respectively, who have used prescription drug without a doctor's prescription in the last 30 days.

Denominator: All 7th & 8th graders, and high school students, respectively, who answered the question in the MIYHS.

Target setting method: Multiple items were looked at to determine the target, including a review of trend data, average decrease or increases. These were compared to a standard 10% decrease, and the target was set combined these factors to reach a realistic goal.

Other notes: Data are statistically weighted to be more representative of the general student population of Maine and to adjust for non-response. 2009 data is weighted using the original methods.

- 1c. Reduce the percentage of adults, 18 and over, who report having used prescription drugs without a doctor's prescription, in the last 30 days.

Measure: Percentage of adults who answered one or more days to the question: "Within the past 30 days, on how many days did you use prescription drugs that were either not prescribed to you and/or not used as prescribed in order to get high?"

Numerator: Number of adults answering the Behavioral Risk Factor Surveillance System (BRFSS) survey who answer they used 1 or more times in the past 30 days.

Denominator: All respondents to the BRFSS survey.

Target setting method: Multiple items were looked at to determine the target, including a review of trend data, average decrease or increases. These were compared to a standard 10% decrease, and the target was set combined these factors to reach a realistic goal.

Other notes: Data are statistically weighted to be more representative of the general adult population of Maine and to adjust for non-response.

2. Increase the proportion of adolescents never using substances

SUB-OBJECTIVES:

- 2a. Increase the percentage of youth who reported never having an alcoholic drink in their life.

Measure: The percentage of high school students who answered 0 days, when asked "during your life, on how many days have you had at least one drink of alcohol?"

Numerator: Number 9th- 12th graders answering the question "0 days."

Denominator: Total number of students who answered this question.

Target setting method: 10% increase of those never using.

Other notes: Data are statistically weighted to be more representative of the general student population of Maine and to adjust for non-response. 2009 data is weighted using the original methods.

2b. Increase the percentage of youth who reported never using marijuana in their life.

Measure: The percentage of high school students who answered 0 times, when asked “during your life, how many times have you used marijuana?”

Numerator: Number 9th- 12th graders answering the question “0 days.”

Denominator: Total number of students who answered this question.

Target setting method: 10% increase of those never using.

Other notes: Data are statistically weighted to be more representative of the general student population of Maine and to adjust for non-response. 2009 data is weighted using the original methods.

2c. Increase the percentage of youth who reported never taking a prescription not prescribed to them in their life.

Measure: The percentage of high school students who answered 0 times, when asked “during your life, how many times have you taken a prescription drug without a doctor’s prescription?”

Numerator: Number 9th- 12th graders answering the question “0 days.”

Denominator: Total number of students who answered this question.

Target setting method: Multiple items were looked at to determine the target, including a review of trend data, average decrease or increases. These were compared to a standard 10% decrease, and the target was set combined these factors to reach a realistic goal.

Other notes: Data are statistically weighted to be more representative of the general student population of Maine and to adjust for non-response. 2009 data is weighted using the original methods.

2d. Increase the percentage of youth who reported never inhaling to get high in their life.

Measure: The percentage of high school students who answered 0 times, when asked “during your life, how many times have you sniffed glue, breathed the contents of aerosol spray cans or inhaled any paints or sprays to get high?”

Numerator: Number 9th- 12th graders answering the question “0 days.”

Denominator: Total number of students who answered this question.

Target setting method: 10% increase of those never using.

Other notes: Data are statistically weighted to be more representative of the general student population of Maine and to adjust for non-response. 2009 data is weighted using the original methods.

2e. Increase the percentage of youth who reported never having smoked in their life.

Measure: The percentage of high school students who answered “I have never smoked a whole cigarette”, when asked “how old were you when you smoked a whole cigarette for the very first time”?

Numerator: Number 9th- 12th graders answering the question “never smoked.”

Denominator: Total number of students who answered this question.

Target setting method: 15% increase of those never using.

Other notes: Data are statistically weighted to be more representative of the general student population of Maine and to adjust for non-response. 2009 data is weighted using the original methods.

3. Increase the proportion of persons who need alcohol and/or illicit drug treatment and received specialty treatment for abuse or dependence in the past year

SUB-OBJECTIVES

- 3a. Decrease the percentage who needed but did not receive treatment for illicit drug use.
- 3b. Decrease the percentage who needed but did not receive treatment for alcohol use.

Measures: Percentage of Maine people 12 and older identified as being dependent or abusing (a) drugs or (b) alcohol who did not get treatment for it in the past year.

Numerator: Of those who the survey identified as needing treatment, but then said they did not get treatment.

Denominator: Everyone identified in the survey as needing treatment based upon positive answers to specific questions.

Target setting method: 10% reduction.

Other notes: First a person is classified as needing treatment for drug or alcohol use. There are multiple questions asked to determine this about multiple drugs. This classification depends upon several questions. For alcohol use, needing treatment is determined by whether they meet any one of the following three criteria: (1) Alcohol dependence in the past year, (2) Alcohol abuse in the past year, or (3) Received treatment at a specialty facility in the past year. Then it uses the question that asks about receipt of treatment. There is also a separate question asking about receipt of treatment for alcohol use at a specialty facility, where a specialty facility includes a hospital (inpatient), rehabilitation facility (in or outpatient), or mental health center. So a person in need of treatment for alcohol use but did not receive treatment (at a specialty facility) is a person classified with alcohol dependence or abuse and

said no to the question about receiving treatment for alcohol use in the past year. Healthy Maine 2020 will use National Survey on Drug Use and Health (NSDUH) calculated variables, but Healthy People 2020 is able to use one year of data to determine the percentage; Healthy Maine 2020 has to use combined years of NSDUH to get a percentage.

4. Reduce the proportion of persons engaging in binge drinking of alcoholic beverages

SUB-OBJECTIVES

- 4a. Decrease the percentage of high school adolescents who engage in binge drinking.

Measure: Percentage of students who answered at least 1 day or more to the following: “During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?”

Numerator: Number 9th- 12th graders answering the question 1 day or more.

Denominator: Total number of students who answered this question.

Target setting method: 10% reduction.

Other notes: Data are statistically weighted to be more representative of the general student population of Maine and to adjust for non-response. 2009 data is weighted using the original methods. For High School: Healthy People 2020 uses Monitoring the Future data, which measures 2 week drinking. Healthy Maine uses Maine Integrated Youth Health Survey (MIYHS), which measures 30 day drinking. For Adolescents 12-17: Healthy People 2020 uses National Survey on Drug Use and Health for 30 day drinking. MIYHS has larger sample size than either of the two national data sources, for Maine, and has smaller confidence intervals.

4b. Decrease the percentage of young adults 18-24 who engage in binge drinking.

Measure: Percentage of young adults, ages 18-24, who answered yes to the question of whether they had engaged in binge drinking in the past 30 days.

Numerator: Number adults, ages 18-24, answering the question 1 day or more.

Denominator: Total number of adults, ages 18-24, who answered this question.

Target setting method: 10% reduction.

Other notes: Data are statistically weighted to be more representative of the general adult population of Maine and to adjust for non-response. 2009 data is weighted using the original methods. Healthy People 2020 uses Monitoring the Future for national numbers. This data source is not able to be broken down using one year of data by Maine by young adults. Healthy Maine 2020 uses the Behavioral Risk Factor Surveillance System because it has a larger sample size, smaller confidence intervals, and are able to run sub-state and/or sub population data.

4c. Decrease the percentage of all adults who engage in binge drinking.

Measure: Percentage of all respondents who answered yes to the question of whether they had engaged in binge drinking in the past 30 days. Binge drinking is defined for men as not having five or more drinks on one occasion and for women, as not having four or more drinks on one occasion.

Numerator: Number answering the question 1 day or more.

Denominator: Total number who answered this question.

Target setting method: 10% reduction.

Other notes: Data are statistically weighted to be more representative of the general adult population of Maine and to adjust for non-response. 2009 data

is weighted using the original methods. Healthy People 2020 uses Monitoring the Future for national numbers. This data source is not able to be broken down using one year of data by Maine young adults. Healthy Maine 2020 uses the Behavioral Risk Factor Surveillance System because it has a larger sample size, smaller confidence intervals, and are able to run sub-state and/or sub population data.

5. Reduce tobacco use by adults

Measure: Percentage of adults who are current smokers (weighted).

Numerator: Number of adults who are current smokers (weighted).

Denominator: Number of adults who responded to the questions on current smoking (weighted).

Target setting method: 10% decline from the 2010 prevalence rate.

Other Notes: Data are statistically weighted to be more representative of the general adult population of Maine and to adjust for non-response. This measure is the same as Healthy People 2020. However, the data source is different. Healthy People 2020 uses data from the National Health Interview Survey, which does not provide state-level data.

6. Reduce tobacco use by adolescents

SUB-OBJECTIVES

6a. Reduce the use of any tobacco products among middle school students.

Measure: Percentage of 7th & 8th grade students who smoked cigarettes or cigars or used chewing tobacco, snuff, or dip within the past 30 days.

Numerator: Number of 7th & 8th grade students who said they smoked cigarettes or cigars or used chewing tobacco, snuff, or dip in the past 30 days.

Denominator: Number of 7th & 8th grade students who responded to the cigarette, cigar or chewing tobacco, snuff, or dip questions.

Target setting method: 10% decline from the 2009 prevalence.

Other notes: Data are statistically weighted to be more representative of the general student population of Maine and to adjust for non-response. 2009 data is weighted using the original methods. Used calculated variable QNANYTOB. There is not a HP2020 indicator for 7th & 8th grade students, but this is the same measure that HP2020 used for high school students.

6b. Reduce cigarette smoking among middle school students.

Measure: Percentage of 7th & 8th grade students who smoked cigarettes in the past 30 days.

Numerator: Number of 7th & 8th grade students who said they smoked cigarettes in the past 30 days.

Denominator: Number of 7th & 8th grade students who responded to the question on cigarette smoking in the past 30 days.

Target setting method: 15% decline from the 2009 prevalence.

Other notes: Data are statistically weighted to be more representative of the general student population of Maine and to adjust for non-response. 2009 data is weighted using the original methods.

6c. Reduce the use of any tobacco products among high school students.

Measure: Percentage of 9th – 12th grade students who smoked cigarettes or cigars or used chewing tobacco, snuff, or dip within the past 30 days.

Numerator: Number of 9th – 12th grade students who said they smoked cigarettes or cigars or used chewing tobacco, snuff, or dip in the past 30 days.

Denominator: Number of 9th – 12th grade students who responded to the cigarette, cigar or chewing tobacco, snuff, or dip questions.

Target setting method: 10% decline from the 2009 prevalence.

Other notes: Data are statistically weighted to be more representative of the general student population of Maine and to adjust for non-response. 2009 data is weighted using the original methods. This measure is the same as a HP 2020 objective. However, the HP2020 uses the national Youth Risk Behavior Surveillance System (YRBSS) data. Maine Integrated Youth Health Survey provides a more representative estimate for Maine than YRBSS.

6d. Reduce cigarette smoking among high school students.

Measure: Percentage of 9th – 12th grade students who smoked cigarettes in the past 30 days.

Numerator: Number of 9th – 12th grade students who said they smoked cigarettes in the past 30 days.

Denominator: Number of 9th – 12th grade students who responded to the question on cigarette smoking in the past 30 days.

Target setting method: 15% decline from the 2009 prevalence.

Other notes: Data are statistically weighted to be more representative of the general student population of Maine and to adjust for non-response. 2009 data is weighted using the original methods.

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Appendix A

2012 Maine State Health Assessment Comparison to Healthy Maine 2020 Objectives

	Healthy Maine 2020	State Health Assessment
Demographics		
Population by gender and age		x
Population by county and public health district		x
Population - Hispanic and non-Hispanic		x
Population - OMB race categories		x
Lesbian, gay and bisexual HS students (2011)		x
Lesbian, gay and bisexual adults (2010)		x
Disability status (2008-2010)		x
Living in rural areas (2010)		x
Population density (people per square mile) (2010)		x
Veterans (2010)		x
Military members (Active, National Guard and Reserves) (2010)		x
Socio-economic status		
Speak a language other than English at home (2006-2010)		x
Speak English less than very well (2006-2010)		x
65+ year olds living alone (2010)		x
Less than a high school diploma, GED, or equivalent (2010)		x
Median household income (2006-2010)		x
Poverty (less than 100% of the federal poverty level) (2010)		x
Single parent families (2010)		x
Unemployment (2011)		x
HS graduation rate (2011)		x

	Healthy Maine 2020	State Health Assessment
General health status and mortality		
Health fair to poor (2010)		x
Average number of unhealthy days in the past month (mental health) (2010)		x
Average number of unhealthy days in the past month (physical health) (2010)		x
Life expectancy at birth (years)		x
Access		
Emergency department visits per 100,000 (2009)		x
No current health insurance coverage (2010)	x	x
Licensed primary care physician ratio to total population (2010)		x
Individuals unable to obtain or delay obtaining necessary medical care (2010)	x	x
Persons with a usual primary care provider (2010)	x	x
Community-based organizations providing population-based primary prevention services	x	
Cancer		
Mammograms (over 50) (2010)		x
Pap smears (2010)		x
Sigmoid/colonoscopy (over 50) (2010)		x
Incidence - all cancers per 100,000 (2009)		x
Mortality - all cancers per 100,000 (2008)		x
Colorectal cancer incidence per 100,000 (2009)		x
Colorectal cancer mortality per 100,000 (2008)		x
Late-stage colorectal cancer incidence per 100,000 (2009)		x

	Healthy Maine 2020	State Health Assessment
Female breast cancer incidence per 100,000 (2009)		x
Female breast cancer mortality per 100,000 (2008)		x
Late-stage female breast cancer incidence per 100,000 (2009)		x
Late-stage prostate cancer incidence per 100,000 (2009)		x
Lung cancer incidence per 100,000 (2009)		x
Lung cancer mortality per 100,000 (2008)		x
Tobacco-related neoplasms incidence per 100,000 (2009)		x
Tobacco-related neoplasms mortality per 100,000 (2008)		x
Cancer detected at local stage	x	
Cardiovascular health		
Acute myocardial infarction (AMI) hospitalizations per 100,000 (2009)		x
Hospitalizations of older adults with heart failure as the principle diagnosis	x	
Acute myocardial infarction (AMI) mortality per 100,000 (2009)		x
Coronary heart disease mortality per 100,000 (2009)		x
Stroke hospitalizations per 100,000 (2009)		x
Stroke mortality per 100,000 (2009)		x
High blood pressure (2009)		x
Adults with hypertension who meet the recommended guidelines (healthy weight, reduce salt, increase physical activity, avoid heavy or binge drinking)	x	
High cholesterol (2009)		x

	Healthy Maine 2020	State Health Assessment
Diabetes		
Diabetes emergency department visits (principal diagnosis) per 100,000 (2009)		x
Diabetes hospitalizations (principal diagnosis) per 100,000 (2009)		x
Diabetes mortality (underlying cause) (2009)		x
Adults who have been told by a doctor they have diabetes (2010)		x
Adults with diabetes who have had a A1c test 2x per year (2010)		x
Adults with diabetes who have had foot exam annually (2010)		x
Adults with diabetes who have had eye exam annually (2010)		x
Persons with pre-diabetes who are at a healthy weight	x	
Persons with pre-diabetes who are physically active	x	
Adults with diabetes who receive formal diabetes education	x	
Emergency Preparedness		
Bio-terrorism events and/or submissions to the HETL (2011)		x
Health Alert Network Alerts and Advisories		x
Time necessary to activate designated personnel in response to a public health emergency via the HAN	x	
Public health events (2011)		x
Public health emergency hazard and vulnerability score		x
Frequency and number of outreach activities to the community through training and education about public health emergency preparedness	x	

	Healthy Maine 2020	State Health Assessment
Number of trained public health and healthcare emergency responders	x	
Unnecessary surge in hospital emergency departments during an event with public health significance	x	
Environmental Health		
Particulate matter in the air		x
Number of days the Air Quality Index (AQI) exceeds 100	x	
Carbon monoxide poisoning emergency department visits per 100,000 (2009)		x
Persons served by a community water systems who receive a supply of drinking water that meets the regulations of the Safe Drinking Water Act	x	x
Children with elevated blood lead levels	x	x
Fluoridated water		x
Homes with private wells tested for arsenic	x	
Homes with elevated Radon	x	x
Number of homes with an operating radon mitigation system for persons living in homes at risk for radon exposure	x	
Health Care Quality		
Ambulatory care sensitive condition hospital admissions per 100,000 (2008)		x
Good communication with the doctor (2009)		x
Healthcare-associated methicillin-resistant Staphylococcus aureus (MRSA) infections	x	
CLABSI standard infection ratio per 1,000 central-line catheter days (2011)		x
Immunization		
Cases/rates of vaccine-preventable diseases (Pertussis) per 100,000 (2011)	x	x

	Healthy Maine 2020	State Health Assessment
Cases/rates of vaccine-preventable diseases (Varicella) per 100,000	x	
Annual flu vaccine for adults (2010)		x
Annual flu vaccine for children ages 0-17 yrs (2006-2010)		x
Pneumococcal vaccination (over 65) (2010)		x
Meningococcal (MCV4) Vaccination Coverage - Adolescents (2010)	x	x
Tdap Vaccination Coverage - Adolescents (2010)	x	x
Vaccination Coverage - Children Aged 19-35 Months (2010)	x	x
Infectious Disease		
Animal Rabies (cases) (2011)		x
Campylobacteriosis per 100,000 (2011)	x	x
Cryptosporidiosis per 100,000 (2011)	x	x
E. coli (STEC) per 100,000 (2011)	x	x
Salmonella per 100,000 (2011)	x	x
Tuberculosis per 100,000 (2011)		x
Chronic hepatitis B per 100,000 (2011)		x
Past and present hepatitis C per 100,000 (2011)		x
People with Hepatitis C who know their serostatus	x	
Lyme disease per 100,000 (2011)		x
Chlamydia per 100,000 (2011)		x
Gonorrhea per 100,000 (2011)		x
Incidence of HIV per 100,000 (2011)		x
New HIV diagnoses that are detected late in the course of HIV illness	x	
Incidence of AIDS per 100,000 (2011)		x
Syphilis per 100,000 (2011)		x

	Healthy Maine 2020	State Health Assessment
Injury, Intentional		
Violent crime rate (2010)		x
Suicide deaths per 100,000 (2009)	x	x
Bullying among high school students (2011)	x	x
Intentional self-injury high school students (2011)		x
Non-fatal child maltreatment (2010)	x	x
Violence by current or former intimate partners in the past year (2007, 2008, 2010)	x	x
Rape or attempted rape (2006, 2009)	x	x
Injury, Unintentional		
Traumatic brain injury related emergency department visits per 100,000 (2009)		x
Traumatic brain injury related hospital discharges per 100,000 (2009)		x
Fall-related emergency department visits among older adults per 100,000 (2009)	x	x
Motor vehicle traffic deaths per 100,000 (2009)	x	x
All poisoning deaths per 100,000	x	
Unintentional and undetermined intent poisoning deaths per 100,000 (2009)	x	x
Seatbelt use, high school students (2011)		x
Seatbelt use, adults (2010)		x
Maternal and child health		
Children with special health care needs (2009-2010)		x
Autism spectrum disorders (2011)		x
Ever breastfed (2007)		x
Breastfeeding at 6 months (2007)		x
Live births for which mother received early and adequate prenatal care (2010)	x	x

	Healthy Maine 2020	State Health Assessment
Low birthweight (<2500 grams) (2010)		x
Preterm births	x	
Any contraception use before last sexual intercourse - high school students (2011)		x
Birth control use before last sexual intercourse - high school students (2011)		x
Condom use before last sexual intercourse - high school students (2011)		x
Infant mortality per 100,000 (2009)	x	x
Fertility rate, 15-44 year olds per 1000 (2006-2010)		x
Teen birth rate per 1000 (2010)		x
Abstinence from cigarette smoking during the last 3 months of pregnancy (2010)	x	x
Abstinence from alcohol during the last 3 months of pregnancy (2010)	x	
Percentage of births for which the pregnancy was intended (2010)	x	x
Mental Health		
Mental health emergency department rates per 100,000 (2009)		x
Sad/hopeless - 2 weeks in a row (high school students) (2011)		x
Seriously considered suicide (high school students) (2011)		x
Lifetime anxiety (adults) (2010)		x
Lifetime depression (adults) (2010)		x
Adults with current symptoms of moderate or severe depression (2010)		x
Alzheimer's disease, dementia & related disorders diagnoses per 1000 (2006)		x

	Healthy Maine 2020	State Health Assessment
Co-morbidity for persons with mental illness (People with depression or anxiety, and any of: diabetes, asthma, hypertension)	x	x
Primary care facilities that provide mental health treatment onsite or by paid referral	x	
Healthy behaviors of people with mental health issues (fruits and vegetable consumption, physical activity, heavy drinking, and smoking)	x	
Children with mental health problems who receive treatment	x	
Adults with mental health disorders who receive treatment	x	
Persons with co-occurring substance abuse and mental disorders who receive treatment for both disorders	x	
Occupational Health		
Deaths from work-related injuries (rate per 100,000 employed) (2010)	x	x
Non-fatal work-related injuries (rate per 100 full time equivalents) (2010)	x	x
Injury and illness cases involving days away from work due to overexertion	x	
Injury and illness cases involving days away from work due to repetitive motion	x	
Persons who have elevated blood lead concentration from work exposure	x	
New cases of work-related, noise-induced hearing loss	x	
Emergency department visits for work-related asthma	x	
Oral Health		
Children who have dental caries experience in their primary or permanent teeth. (2011)		x

	Healthy Maine 2020	State Health Assessment
No dental care in last two years (2010)		x
Physical Activity, Nutrition and Weight		
Household food insecurity (2008-2010)	x	x
Fruit and vegetable consumption among students (2011)	x	x
Fruit and vegetable consumption among adults (2010)	x	x
Physical activity - students (2011)		x
Students who attend daily physical education (PE) at school	x	
Sedentary lifestyle - adults (2010)		x
Obesity - students (2011)	x	x
Overweight - students (2011)		x
Obesity - adults (2010)	x	x
Overweight - adults (2010)	x	x
Public Health Infrastructure and Health Information Technology		
Tribal, State, and local public health agencies that are accredited	x	
Tribal, State, and local public health agencies that have implemented a health improvement plan and increase the proportion of local health jurisdictions that have implemented a health improvement plan linked with their State plan	x	
Tribal, State, and local public health agencies that incorporate Core Competencies for Public Health Professionals into job descriptions and performance evaluations	x	
Tribal, State, and local public health agencies that have implemented an agency-wide quality improvement process	x	
Meaningful users of health information technology (HIT)	x	

	Healthy Maine 2020	State Health Assessment
Respiratory health		
Bronchitis and Asthma emergency department visits per 100,000 (2009)		x
Emergency department visits for asthma only	x	
Chronic lower respiratory disease deaths per 100,000 (2009)		x
Chronic obstructive pulmonary disease (COPD) hospitalizations per 100,000 (2009)		x
Current asthma - children and youth (2006-2010)		x
Current asthma - adults (2010)		x
Substance Abuse		
Alcohol-induced mortality per 100,000 (2009)		x
Alcohol-related mortality per 100,000 (2001-2005)		x
Alcohol use - HS students (2011)		x
Binge drinking - HS students (2011)	x	x
Binge drinking - adults (2009)	x	x
Chronic heavy drinking - adults (2009)		x
Lifetime use of Illicit drug use among HS students (2011)	x	x
Marijuana use - HS students (2011)		x
Nonmedical use of prescription drugs - HS students (2011)	x	x
Past-year nonmedical use of prescription drugs - adults (2011)	x	x
Persons who need alcohol and/or illicit drug treatment and received specialty treatment for abuse or dependence in the past year	x	

	Healthy Maine 2020	State Health Assessment
Tobacco Use		
Secondhand smoke exposure - Kindergarten & 3rd grade (2011)		x
Secondhand smoke exposure - MS students (2011)		x
Secondhand smoke exposure - HS students (2011)		x
Current smoking - high school students (2011)	x	x
Current smoking - adults (2010)	x	x

Appendix B

Healthy Maine 2020 Participants

The development of Healthy Maine 2020 involved many people, include Maine CDC staff, contractors and many stakeholders. The following people were invited to be a part of the process via online surveys and in-person workgroup meetings. We thank those who participated for their time and expertise.

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